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A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

JANUARY 25, 1926

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the Arctic to the Tropics

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That is why American-LaFrance is in 90% of America's fire departments, and has earned the title, "The Standard of the World."

AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.

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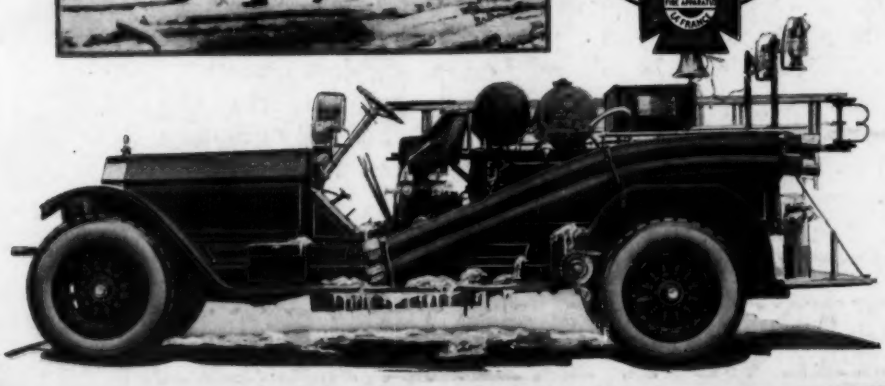

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BECAUSE sparks on roofs have always been one of the chief offenders in large conflagrations, the ever widening use of asbestos roofing must be regarded as a distinct advance in fire-control.

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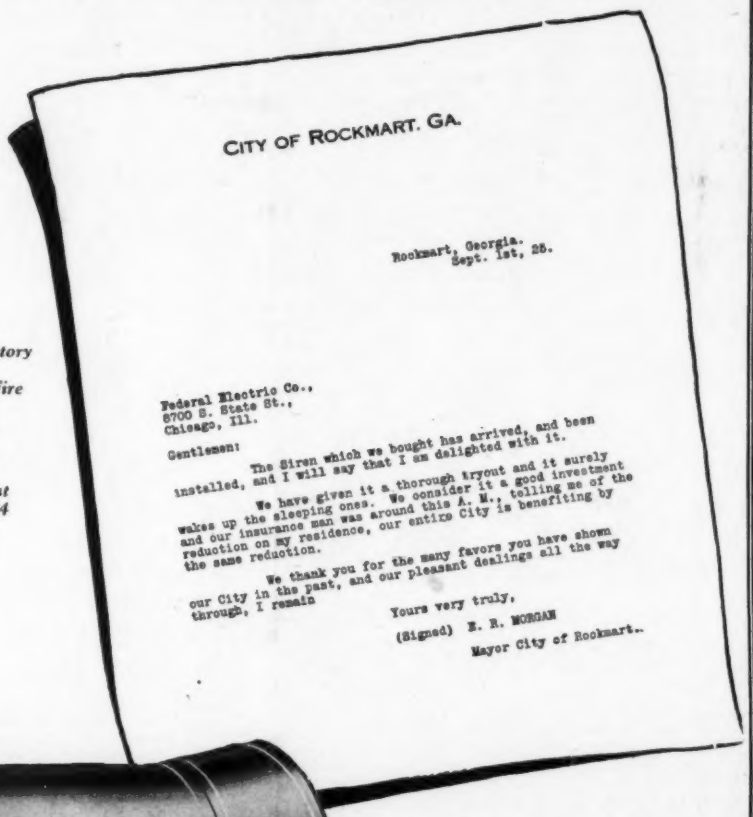

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Rockmart, Georgia.
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Federal Electric Co.,
6700 S. State St.,
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Gentlemen:

The Siren which we bought has arrived, and been installed, and I will say that I am delighted with it.

We have given it a thorough tryout and it surely wakes up the sleeping ones. We consider it a good investment and our insurance man was around this A. M., telling me of the reduction on my residence, our entire City is benefiting by the same reduction.

We thank you for the many favors you have shown our City in the past, and our pleasant dealings all the way through, I remain

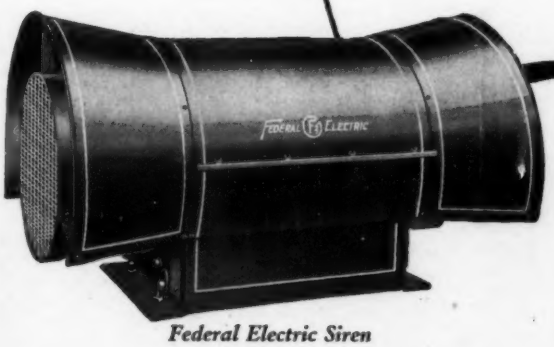
Yours very truly,

(Signed) E. R. MORGAN
Mayor City of Rockmart.

Approved by the Underwriters' Laboratory of the National Board of Fire Underwriters

Approval dated October 11, 1918

Code control patent allowed April, 1924



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FE-1

The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

Published the 10th and 25th of each month

SUBSCRIPTION PRICE
U. S. $3 a year; Canada $3.50.
Foreign $4; Single copies, 25c.

Issued at Lyon Block, Albany, N. Y.,
by CASE-SHEPPERD-MANN PUBLISHING CORP.,
Also publishers of "Water Works Engineering," Technical Books, etc.

Executive and Editorial Offices,
225 West 34th Street, New York City
All communications, including Editorial, Advertising and Subscription, can be directed to either of the above addresses.

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Do We Deserve It?

NO USE denying that we have been tremendously pleased to receive so many fine letters and other expressions of approval from our friends throughout the country, since the appearance of the first issue of FIRE ENGINEERING.

¶ Everybody seems to like it—even better than we had hoped,—and we are glad.

¶ But may we remind you that the only way we can *continue* to deserve is to *serve!* We can't make a real success, a continued success, of FIRE ENGINEERING unless we produce a magazine that is of vital value to the profession.

¶ And you, our friends, our readers, are the only ones who can truly determine the extent of our success. FIRE ENGINEERING is published *for you!* If you like it, if you tell your associates about it, if you send us suggestions for improvements, if you play the game with us, FIRE ENGINEERING will grow and prosper—and only with your cooperation can it succeed.

We know we can count upon you!

The Publishers

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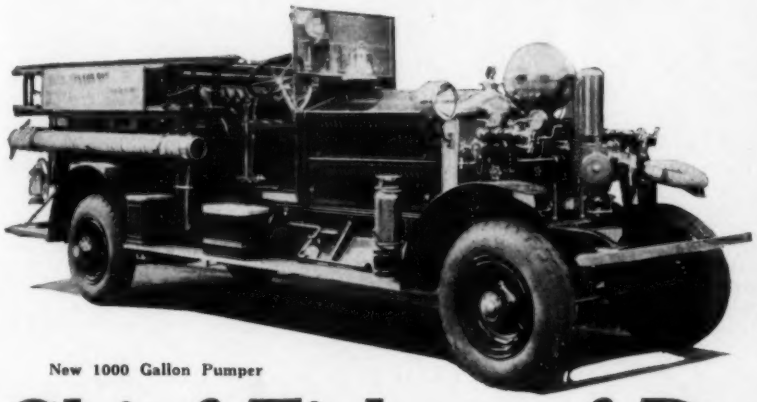
Entry as second class matter at the Post Office, Albany, N. Y., under the Act of March 3, 1879, pending.

"Nothing is too good for fire service, and nothing but the best will do."

—Ahrens-Fox



New 1000 Gallon Pumper

Chief J. W. Fisher

Chief Fisher of Dubuque, Ia.

Praises His Old and New Ahrens-Fox Pumpers

City of Dubuque

Dubuque, Ia., Nov. 21, 1925.

Ahrens-Fox Fire Engine Company,
Cincinnati, Ohio.
Attention: John Ahrens, V.P.

Gentlemen-

Your wonderful pumper which was an agreeable surprise not only to myself but to the balance of our city officials, has been delivered, tested, accepted and is now in service.

The award of this contract for the pumper to your Company was largely influenced by a test made by the Underwriters held here in this city August 1st, this year, in which test your old engine easily met all the requirements of this test was a surprise for the 750 gallon). The showing made in this test when the engine was pump and the original valves and springs in most when the engine was delivered about nine years ago and during which time your old apparatus did establish a splendid record for their.

We are all very much pleased with our new Ahrens-Fox 1000 gallon pumper and still take pleasure in recommending same at any time to prospective purchasers.

Wishing you continued success, remain,

Yours very truly,

Chief Fire Dep't.

Read for yourself from the reproduced letter at the side just what Chief Fisher with his years of practical fire department experience has to say about his own Ahrens-Fox pumpers and of Ahrens-Fox apparatus in general.

In the Underwriters' tests and in additional ones requested by city officials, the new 1000 gallon pumper came through with a splendid record, so that City Manager C. C. Douglas, Chief J. W. Fisher as his letter proves, and other municipal officials interested in fire protection, are more than pleased with their new pumper.

This high endorsement of Ahrens-Fox apparatus is significant, but not unusual, because fire officials everywhere are fast realizing that modern fire service is so exacting and strenuous that only Ahrens-Fox specially designed and built apparatus of the highest possible quality can hope to prove equal to demands and dependable at all times.

We are always glad to explain the important features of Ahrens-Fox apparatus to city officials without placing them under any obligation whatever—so be sure to get in touch with us before deciding upon new equipment.

Send for Fire Apparatus Bulletins with Complete Information

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

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Fisk Bldg., New York

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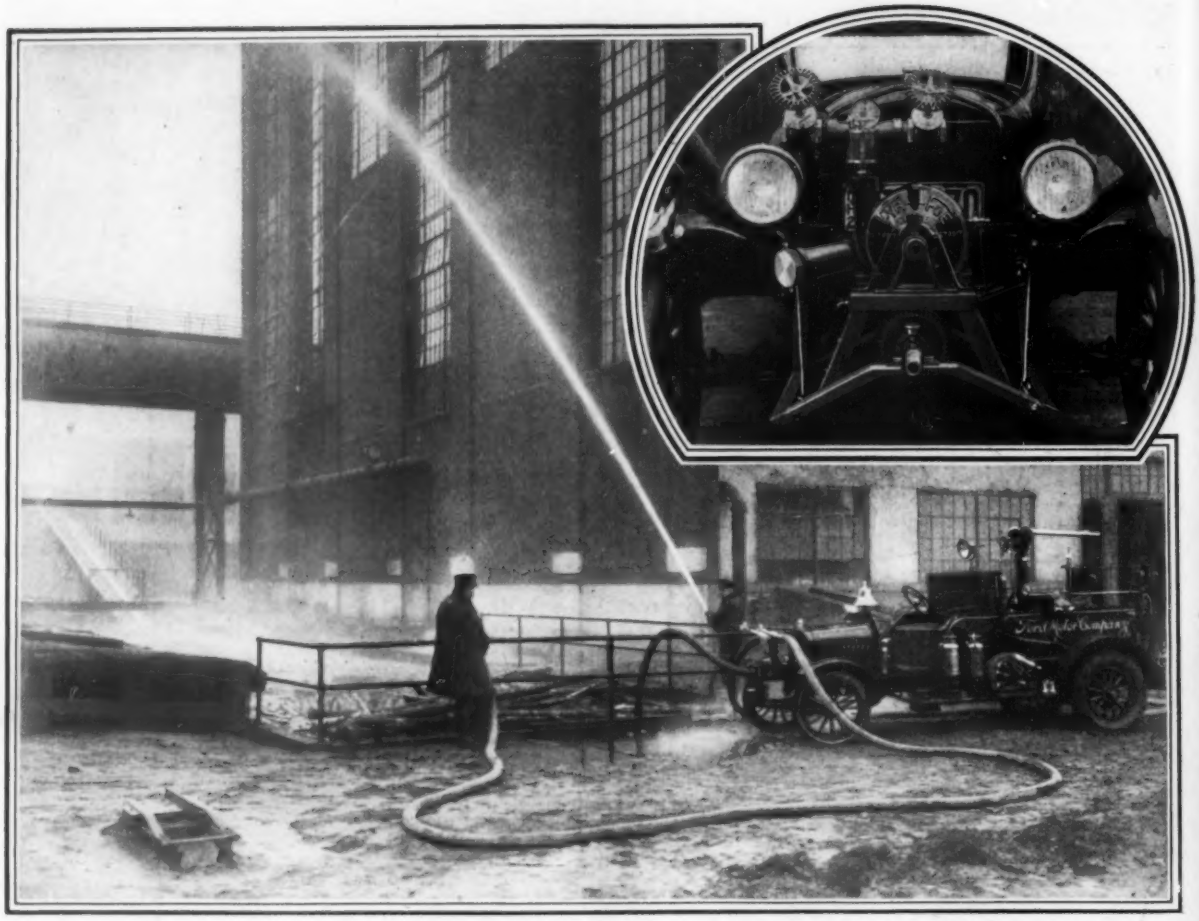


Jaeger Drafting from a Sluiceway

With all of their vast resources, one of the world's largest manufacturers selected the "FYR-FOE" Auto Powered Pumper as ideally fitted to their fire protection problem.

Here it is shown drafting from a log sluiceway—its operation is not affected by the gritty water which must be contended with under such conditions.

The stream thrown by the "FYR-FOE" Twin in the above illustration is to the top of an eight-story building, using a one inch tip on the pipe.

Many towns and rural communities have added the "FYR-FOE" Pumper to their Ford equipment, thereby obtaining effective fire protection at a low cost.

JAEGER PORTABLE POWER CORPORATION

Rivard at Woodbridge St., Detroit, Mich.

"Fortify for Fire Fighting with a 'FYR-FOE'"

Fire officials in cities everywhere are finding A. D. T. cooperation an invaluable aid in their work.

Over $20,000,000,000 worth of property throughout the country is protected by A. D. T. Services.

A. D. T. provides a nation-wide service for better protection against fire loss and water damage.

Every municipal and industrial fire protection official should know the facts about A. D. T. service.

How We Help Fire Chiefs to Prevent Small Fires from Becoming Big Ones—

In this day of modern fire prevention and protection methods you fire officials realize without exception the vital importance of automatic sprinkler equipment in large buildings everywhere — and you, therefore, insist upon sprinkler installation.

Now, what we do is use our offices in cities throughout the country with their electrical and messenger service facilities to supplement, strengthen, and complete the protection provided by this universally used sprinkler equipment.

Thru these offices we provide a service that can be divided into two classes, as follows: First, sprinkler supervision with a constant day and night check-up on every vital part of the sprinkler equipment in their territory and instant detection of a dangerous risk or a blaze. Second, a watchman supervisory service that gives needed warning of the failure of a watchman to make his rounds because of death, accident, illness, robbery, or other cause.

This service is provided as a form of cooperation with local fire department officials, usually at their suggestion and invariably with their recommendation, is approved by the National Board of Fire Underwriters, and it is our desire to work in closest harmony with all fire officials for the common good.

May we send Complete Information?

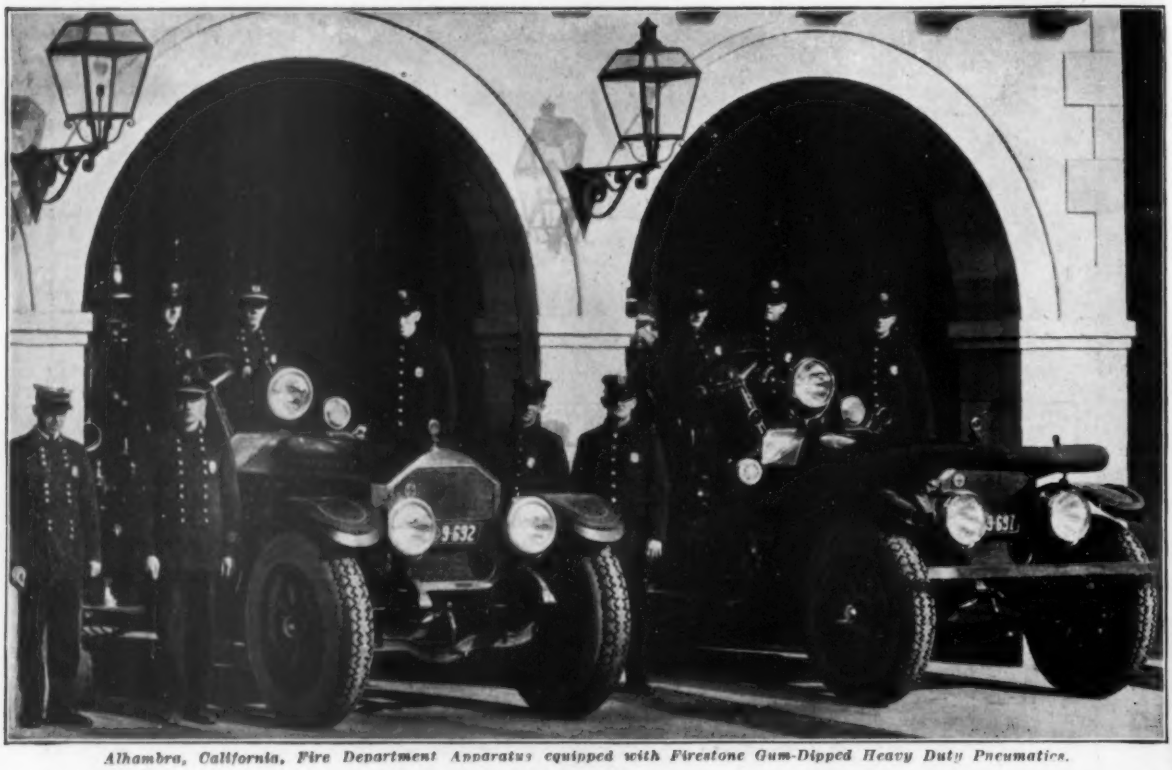
CONTROLLED COMPANIES

American District Telegraph Co.

Executive Offices, 183 Varick St.

New York City

AMERICANS SHOULD PRODUCE THEIR OWN RUBBER . . . H.S. Firestone



Alhambra, California, Fire Department Apparatus equipped with Firestone Gum-Dipped Heavy Duty Pneumatics.

Firestone Pneumatics Engineered for Fire Apparatus

The exclusive Firestone non-skid tread grips on slippery streets, insures easier steering, reduces side sway, holds the road on the turns, responds quickly to brake or accelerator in traffic.

Gum-Dipping—the exclusive Firestone process, by impregnating every fiber of every cord with rubber — preserves the fabric against deterioration — minimizes friction and heat within the cords—builds extra strength and endurance throughout the cord fabric.

Longer mileage from Firestone Pneumatics brings fire apparatus operating costs down — one of the reasons why leading fire departments in all parts of the country are standardizing on Firestone.

MOST MILES PER DOLLAR

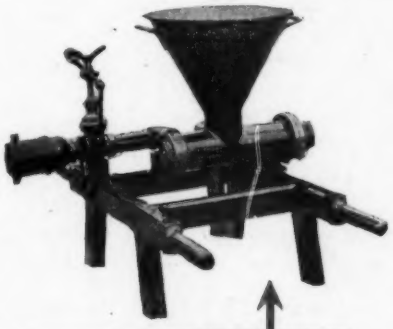
The Mark of Quality

Firestone

Heavy Duty Pneumatics for Fire Apparatus

Where You Have Water You Can Now Have Foam

—a fire-fighting innovation possible only with



AMDYCO
FOAM POWDER
Used with the new Amdyco
FOAM GENERATOR

Better Foam in Better Form

The AMDYCO FOAM GENERATOR

is hooked up to an ordinary hose line just as easily and quickly as making a siamese connection. Amdyco Foam Powder is fed into the hopper, and the water flowing through automatically mixes the foam in any consistency desired. In other words, the stream comes in one end as plain water and goes out the other as foam. Enough powder, which comes in handy cans, can be carried conveniently on the regular fire apparatus to provide for almost unlimited quantities of foam.

The Generator, a portable outfit, is small, compact, and surprisingly simple in operation. It fits conveniently in the corner of an ordinary pumper hose body.

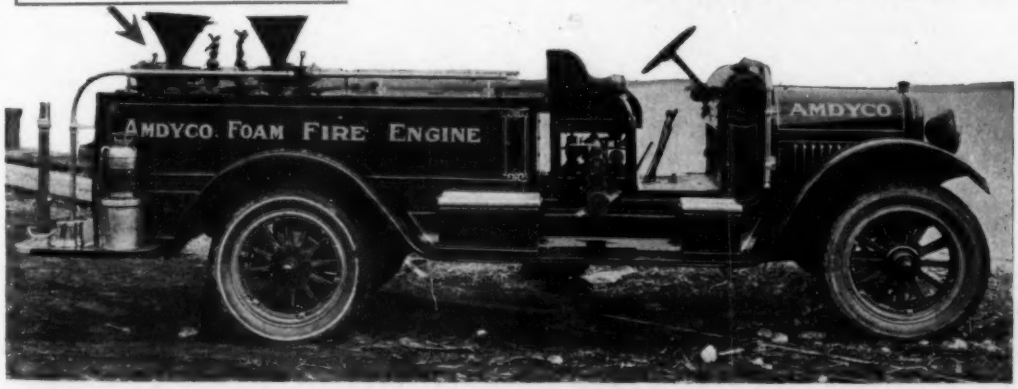
MODERN science now brings to you, in the Amdyco method, a real practical solution of your worst problem today — fighting oil, gasoline and other flammable liquid fires. You no longer have to depend on "prepared" foam which because of its bulk and the necessity of mixing two chemical solutions, cannot be conveniently carried in dependable quantities.

With the Amdyco method, the Amdyco portable Foam Generator, hooked up to any of your regular pumpers or hydrants, provides an almost unlimited supply of superior foam. All you have to do is feed the single Amdyco Foam Powder into the generator and the flowing water does the rest.

Numerous tests, conducted under the auspices of leading fire protection authorities, have overwhelmingly proven Amdyco superiority.

Write us for the facts about these tests and descriptive literature covering the Amdyco Method.

AMDYCO CORPORATION
100 E. 42nd St., New York City



THIS PHOTO shows a specially designed Amdyco Foam Pumper, fully equipped, for use where unusual hazards exist. The same pump can handle water streams as well as foam.

$$VE = \frac{TD - S}{TD} = \frac{AD}{TD}$$

Where VE=Volumetric Efficiency
TD=Theoretical Displacement
AD=Actual Displacement
S=Slippage

Reference to the above formula shows that the volumetric efficiency of a pump increases as slippage decreases.

In the development of the Waterous Rotary Pump slippage has been reduced to a minimum and the over all pump efficiency has been greatly increased.

The rotors make actual contact and roll together, rather than being separated in their functions.

Automatic packing strips take up clearance between rotor tooth and pump barrel.

End play of rotors can be adjusted in a few minutes' time.

These are important Waterous features and are but a few of many reasons why the Waterous Rotary Pump actually pumps more water for a given amount of input horse power than any rotary pump found on the market today.

We always stand ready to prove our claims.

WATEROUS FIRE ENGINE WORKS
INCORPORATED

Saint Paul, Minnesota

Also Manufacturers of Waterous Compression Hydrant

Established Waterous Dependable **1886**

FIRE HYDRANTS

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX JANUARY 25, 1926 NUMBER 2

Maintaining Pension Funds by Insurance Tax

Extent to Which Practice Is Observed in States Shown—Majority Have No Such Tax—Proceeds for Relief Only in Some Cases

THE question of the establishment of a pension fund by firemen so devised as to have support from the state funds has often come up for consideration by firemen's state associations and by the chiefs of numerous fire departments. With a view towards finding out the present practice in vogue, and if, in accordance with state laws, a tax has been levied on the premiums of the insurance companies doing business in the state, and in order further to find out data on this interesting subject, a questionnaire was mailed by FIRE ENGINEERING to the firemen's state organizations, and to a number of fire chiefs. Not all of the states have replied, but the many that have will give a perspective to the problem which is deserving of study by men who are entrusted with the leadership and guidance of firemanic matters.

Relief Fund Instead of Pension in Some States

A large number of the states which have an insurance tax on the premiums written within the state, have a fund which operates as a relief fund instead of as a firemen's pension. Instead of providing for a means by which the fireman when he has reached a certain age or has served for a certain number of years, will receive a pension in a manner similar to municipal employe's pensions, the fund only provides for relief to sick or disabled firemen or to their widows and orphans. While protection of this kind is to be desired, it does not fulfill the needs of a retirement system for firemen who have served their municipality ably and unselfishly.

While a relief fund is both admirable and appreciated, it does not fill the real void in the welfare of the fireman. The relief fund provides means for aiding an immediate emergency, while the pension plan is a system of taking care of the fireman long after he can serve his department with entire satisfaction.

Membership in Firemen's Associations

Most of the legislation concerning the pension fund is worded so that it will apply in towns and villages which have fire apparatus with an aggregate value of $1,000. In some instances it is worded so that the state will distribute allotments for the pension fund only in cities or towns which have a membership in the state firemen's association. This action on the part of the state legislature has caused some of the volunteer fire companies to have a better appreciation of the value of holding membership in a state organization instituted for the promotion of their welfare; it has also awakened the departments in the matter of fire equipment and has acted as a whip to spur the municipal authorities to prompt action instead of the customary filibustering.

The introduction of the subject of a pension fund in fire department circles has been the means of forming state firemen's associations in states where they did not exist heretofore. As in cases of strife, factions unite in defense of a common foe, so too when the matter of amending state laws which threatened the safety of the insurance tax, or of introducing bills which might possibly decrease the amount of moneys available for the firemen's pension has come up for consideration, it has been the means of welding a stronger state association of firemen. Many of the state associations are planning to wage a persistent fight for an insurance tax which will support their pension fund — the subject will be introduced at state conventions this summer.

The tax is worded to affect " foreign " insurance companies. Contrary to popular belief, it is not defined as companies organized in foreign countries. The term " foreign " applies to companies doing business in a state under whose laws they were not incorporated.

The state of Delaware raises moneys for their pension fund by taxing firemen 1% on their annual salaries, and any deficit existing is taken care of by a state tax which is generally around half a mill. This can not be considered within the classification of an insurance tax, but is mentioned to present a plan which was adopted for taking care of the problem in that state.

Majority of States Have No Tax

The majority of the states do not have an insurance tax to take care of the pension fund. The western states lead in the number which have no legislation of this character.

The problem of a tax of this kind is forever coming to the fore in state legislature assemblies and it is not at all improbable that when a table similar to the one presented herewith is made up about a year from date, the number of states without an insurance tax will be in the minority.

Model Law for Fund

To the municipalities which may be troubled by just how to draft the legislation for a pension fund tax on the insurance companies, the following legislation which has been passed in Illinois may be helpful:

Tax or License Fee From Foreign Fire Insurance Companies for Benefit of Fire Department

AN ACT entitled "An act to enable cities, towns and villages, organized under any general or special law to levy and collect a tax or license fee from foreign insurance companies for the benefit of organized fire departments."

FOREIGN FIRE INSURANCE COMPANIES TO PAY TAX OR LICENSE FEE. Sect. 1. All corporations, companies and associations not incorporated under the laws of this State, which are engaged in any city, town or village organized under any general or special law of this State, in affecting fire insurance, shall pay to the treasurer of the city, town or village for the main-

(*Continued on page* 73)

HOW STATES LINE UP IN LEVYING OF 2% TAX ON INSURANCE COMPANIES

STATE	Have you a tax on fire insurance companies, proceeds of which go to the fire departments provided for on on the statute books of your state?	How is this fund distributed?	If you have this law, has any attempt been made recently to change it in any way or repeal it?	Has the law as it now stands worked satisfactorily in providing for the pension fund?	If there is no such insurance tax for the benefit of the fire department in your state, has your association made any attempt to have such legislation put through?
Alabama	½ of 1%	By order from board of trustees of pension fund.			
Arizona	Yes	Based on the amount of insurance written in each city of 2,000 or more inhabitants.	Introduced bill so that money collected on insurance should go to relief and pension fund—failed to pass.	No money for pension fund.	
Arkansas	Yes	By pension which is allowed to firemen 20 years in service, disabled firemen or those hurt in line of duty.	Yes—in the last legislature	Yes	
California	No				California State Firemen's Association will attempt in 1926 election to have people vote for 2% insurance tax amendment to state constitution.
Colorado	Yes	One-half of tax divided proportionally among various departments in state.	No	Yes—it is indispensable.	
*Connecticut	No insurance tax for firemen's benefit.				
Delaware	2% to assist in maintaining fire departments.	State treasurer pays amount to county treasurers.	Law approved April, 1925.		
Florida	No. Bill drawn by firemen's state association but no action taken.				Bill drawn by firemen's state association, but no action has been taken by legislature.
Georgia	One-half of 1% in cities of 150,000 or over.				
Idaho	Law not enforced			No	Tried to have legislature pass such a bill, but plan was voted down.
Illinois	2%	One-half to firemen's pension fund; ½ to apparatus and hose fund.	Tried to change law in the last session of legislature but it was tabled.	In cities where local ordinances are so prepared.	
Indiana	No. Law passed in 1890 but declared unconstitutional by appellate court.				
Iowa	No				Yes.
Kansas	Yes	By insurance commissioner			
Maryland	No				No. Will introduce legislation.
Massachusetts	No				No.
Michigan	No				Many times but always declared unconstitutional.
†Minnesota	Yes	As relief to sick or disabled firemen, their widows and orphans, not as pension.	No	Yes.	
Mississippi	One-half of 1 %	In cities affected by state law.	No	Yes.	
Missouri	No.				
Montana	Yes—½ of tax to fire department.	Relief Association of cities file reports. Funds sent to city treasurer by state auditor.	No	Yes. Preparing legislation to amend some of present weaknesses.	
Nebraska	No				Bill introduced in 1922 but failed to pass.
Nevada	No.				
†New Jersey	Yes, in cities having relief association.	Paid to treasurer of Firemen's Relief Association.	No	Yes.	
†New Hampshire	Yes	Some amendments have been made.		Yes.	
New Mexico	Tax for fire department.				
New York	Yes, on companies not incorporated under N. Y. laws.	Fund minus 10% is used for pension balance for firemen's home.		Yes—not enough to support pension fund.	
North Carolina	One-half of 1%	Direct to fire departments in state.	No	Yes.	

* Relief fund supported by state appropriation.
† Relief fund supported by insurance tax.

How States Line Up in Levying of 2% Tax on Insurance Companies—*Continued*

STATE	Have you a tax on fire insurance companies, proceeds of which go to the fire departments provided for on on the statute books of your state?	How is this fund distributed?	If you have this law, has any attempt been made recently to change it in any way or repeal it?	Has the law as it now stands worked satisfactorily in providing for the pension fund?	If there is no such insurance tax for the benefit of the fire department in your state, has your association made any attempt to have such legislation put through?
North Dakota	Yes	Distributed in proportion in cities where companies are members of the state association.	Yes, in 1917	Yes.	
Ohio	No.				
Oklahoma	Yes	Payment made monthly		Yes.	
Oregon	No				No.
Pennsylvania	Yes	Paid to the treasurer of the various municipalities.	Yes, in the last legislature.	Yes.	
Rhode Island	No				No.
South Carolina	One per cent in towns with $1,000 fire equipment, building code and members of state firemen's association.	To each town	No	Has not been generally used for pension fund.	
Tennessee	No				Yes, but unable to get proper support.
Texas	No				Yes, but without success.
Vermont	No				Tried to pass law for pension fund; have not considered insurance tax.
Washington					None.
Virginia	No				Law passed but declared unconstitutional.
Wyoming	No				Have failed in several past attempts. To try again in 1926.
West Virginia	No.				

* Relief fund supported by state appropriation.

† Relief fund supported by insurance tax.

Maintaining Pension Funds by Insurance Tax

(*Continued from page* 71)

tenance, use and benefit of the fire department thereof, a sum not exceeding two per cent of the gross receipts received by their agency in such city; town or village; and any city, town or village of less than fifty thousand inhabitants, having an organized fire department, shall cause to be passed an ordinance providing for the election of officers of such organized fire department, by the department, which shall include a treasurer, and make all such rules and regulations in respect thereof and the management of said fund as may be needful; that in all such cities, towns or villages the treasurer shall pay such sum received from insurance companies to the treasurer of the fire department of the city, town or village in which it is collected.

The treasurer of such fire department shall give a sufficient bond to the city, town or village in which such fire department is organized to be approved by the president of the village or mayor, as the case may be, conditioned for the faithful performance of his duties under the ordinance passed as aforesaid by said city, town or village; and the treasurer of the fire department shall receive the money so collected and shall pay out the same upon the order of the said fire department for the purpose of the maintenance, use and benefit of such department; Provided, that in any city, town or village where a firemen's pension fund is or may be established under other laws of this State all of the amount so collected may be set apart and appropriated by the city, town or village to the fund for the pensioning of disabled and superannuated members of the fire department, and of the widows and orphans of deceased members of the fire department of cities, towns and villages having an organized fire department.

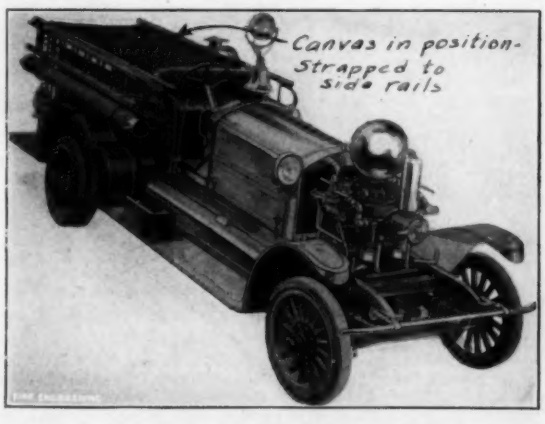
Cities, towns and villages are hereby empowered to prescribe by ordinance the amount of tax or license fee to be fixed, not in excess of the above rate, and at that rate such corporations, companies and associations shall pay upon the amount of all premiums which, during the year ending on every first day of July, shall have been received for any insurance effected or agreed to be effected in the city, town or village, by or with such corporation, companies or association respectively. Every person who shall act in any city, town or village as agent or otherwise, for or on behalf of such corporation, company or association, shall, on or before the fifteenth day of July of each and every year, render to the city, town or village clerk a full, true and just account verified by his oath of all the premiums which during the year ending on every first day of July preceding such report, shall have been received by him, or any other person for him in behalf of any such corporation, company or association, and shall specify in said report the amounts received for fire insurance.

Such agents shall also pay to the treasurer of any such city, town or village, at the time of rendering the aforesaid report, the amount of rates fixed by the ordinance of the said cities, towns or villages, for which the companies, corporations or associations represented by them are severally chargeable by virtue of this act, and the ordinance passed in pursuance thereof. If such account be not rendered on or before the day herein designated for that purpose, or if the said rates shall remain unpaid after that day, it shall be unlawful for any corporation, company or association so in default to transact any business or insurance in any such city, town or village until the said requisition shall have been fully complied with; but this provision shall not relieve any company, corporation or association from the payment of any risk that may be taken in violation hereof.

PENALTY FOR VIOLATING THIS ACT. Sect. 2. Any person or persons violating any of the provisions of this act shall be subject to indictment, and upon conviction thereof in any court of competent jurisdiction, shall be fined in any sum not exceeding one thousand dollars or imprisonment in the county jail not exceeding six months, either or both in the discretion of the court.

The amount of said tax or license fee may be also recovered of said corporation, company or association or its agent, by an action in the name and for the use of any such city, town or village as for money had and received: Provided, that this act shall only apply to such cities, towns and villages as have established and maintained, by and under municipal ordinances, a fire department for the prevention of fires.

REPEAL. Sect. 3. All acts or parts of acts in conflict with the provisions of this act are hereby repealed.



Canvas Cover Protects Hose on Apparatus

A piece of canvas cut slightly larger than the hose body of a truck and provided with riveted strap and buckles secured to the side rails as shown in the illustration keeps the hose dry in bad weather, prevents acid and chemical from being spilled on it and also provides a convenient place for carrying fire coats and hats.

Changes in Indianapolis Fire Department

The changes as briefly announced in last week's issue of FIRE ENGINEERING as occurring in the fire department of Indianapolis, Ind., included the promotion of Jesse A. Hutsell, chief instructor of the department to chief of the department; the appointment of Horace W. Carey as chief of the fire prevention bureau, and assignment of Former Chief John J. O'Brien to the command of the high valve district with the rank of battalion chief. These changes were predicated upon the continuance of the department's intensive campaign in fire prevention and protection at present being carried on with the cooperation of the fire prevention committee of the Indianapolis Chamber of Commerce, of which Frank C. Jordan, secretary of the Indianapolis Water Company, president last year of the American Water Works Association, is Chairman.

Chief Jesse A. Hutsell, Indianapolis, Ind.

Chief Hutsell was born on a farm in Marion County, Ind., on November 4, 1879. He was appointed as a substitute fireman in 1901 and appointed a regular member in March, 1902. He was promoted to the rank of lieutenant in 1905, captain in 1912, battalion chief in 1920, chief instructor to the department in 1923. He was promoted to chief of the department on January 4, 1926.

Horace W. Carey, Chief Indianapolis Fire Prevention Bureau.

Horace W. Carey, the newly-appointed chief of the fire prevention bureau, was born near Indianapolis, and has lived in the city 21 years. He was educated at Friends' Academy, Westfield, Ind., and Earlham College, Richmond, Ind. His parents were Quakers and he belongs to the Friends' (Quaker) Church in Indianapolis. Mr. Carey practised law and served as deputy clerk of Noblesville, Ind., from 1891 to 1903. He was agent for the Fidelity and Casualty Company of New York, and state agent for the Fidelity and Deposit Company, Baltimore, from 1915 to 1919. Since that time he has been engaged in general insurance business, associated with his son.

Westchester County Firemen Elect

At a meeting of the Westchester County, N. Y., Volunteer Firemen's Association, held in Mamaroneck, N. Y., recently, William A. Coyle of Yonkers was re-elected president. In addition, George H. Moore of Larchmont, and Stephen Ryan of Pelham were re-elected first and second vice-president respectively; the treasurer is M. Keene of Yonkers, and the sergeant at arms, Frank Coxe of Harrison. Richard H. J. Martin of North Tarrytown was elected to fill the vacant post of recording secretary, and Daniel Mullin of Yonkers was chosen financial secretary.

Appointed Chief of New Haven Conn

Lawrence E. Reif, former captain in the city fire department at New Haven, Conn., was appointed chief of the department in that city on December 31. The appointment was made by Mayor David E. FitzGerald who retired from office on that date. Chief Reif succeeds Rufus R. Fancher who was recently placed on the retired list at full salary. The appointment brings to a close numerous rumors of the intended appointment of some eight or ten individuals ranging from members of the active working force of the New Haven fire department to private citizens.

Chief Lawrence E. Reif, New Haven, Conn.

In the selection of a chief, Mayor FitzGerald was beset with many difficulties. According to his statements, the three considerations which influenced him most was a desire to retain the same efficiency, the same high standard and the same respect for superior officers which marked the regime of Chief Rufus R. Fancher.

The new chief of the New Haven department has had a rapid rise as a fireman and has filled his various positions with conspicuous ability. He was appointed a substitute fireman in 1898 by Chief Fancher and was assigned as a ladderman to Company No. 1 on Olive street. In 1904 he was promoted to a lieutenancy in the same company and two years later was appointed a captain. Chief Reif was called to the Winchester Arms Company plant in 1915, to become head of the factory fire department there, displaying at all times a thorough knowledge of fire fighting. After taking the oath of office Chief Reif immediately went on duty. Four captains, four lieutenants and five substitute firemen were appointed on the same date after successfully passing the examinations of the Civil Service Board.

T. F. MAGNER.

Box 52 Association Meets

The January meeting of the Box 52 Association, of Boston, Mass., was held in the rooms of the organization at 30 Huntington Avenue, Boston, on the evening of Wednesday, January 20.

President William F. Lehman was in general charge and later turned the meeting over to Vice-President George F. Ambrose who told of plans made by public service corporations of New England to meet emergencies that would arise in case of an earthquake of serious nature.

Among those at the meeting were Assistant Chief Henry A. Fox, of the Boston Fire Department, and John T. Hawes, who has been recommended to the civil service commission for Boston's next Fire Commissioner by Mayor Malcolm E. Nichols.

New Stoughton triple combination car recently delivered to the fire department of Mason City, Ia. The apparatus, which has a capacity of 500 gallons per minute, has passed all tests successfully and has been accepted by the city.

Proper Ventilation Produces Real Results

Importance of Careful Training—Efficient Ventilation Prevents Death and Injury to Fire-Fighters and Damage to Property

By CHIEF DANIEL H. SHIRE, Fire, Police and Safety, Rock Island, Ill., Arsenal *

THE importance of thorough understanding of the science of ventilation is strongly stressed in this paper. Judgment and the knowledge of the proper methods are very essential in performing the work well, the author points out:

Ventilation can be correctly stated as the "Strategy of Fire Fighting," in fire extinguishing operations and one of the most important and very necessary duties carried on by a fire department extinguishing a fire in a large structure.

Chief Daniel H. Shire, Rock Island, Ill., Arsenal

Some of the higher ranking officers in many fire departments are opposed to the theory of ventilating, and in actual practice will not permit their subordinates to operate on the structure on fire in such manner as will partially or wholly relieve it of the accumulated smoke, gas and heat which are produced by the burning of the contents or structural parts of the building.

On the other hand many higher officers advocate prompt and thorough venting.

Some of the former go so far as to say that an area in which a fire occurs should remain closed tight until fire is under control, unless so far as it may be necessary to open up for admission of hose lines.

Of course it is to be understood that nothing in this article is to be taken as a reflection upon any fire department, its men or its officers. For they at all times do their best, never shirking their duty, and rank among the best in the world.

Differences of Opinion Confusing

But times change. And so it is with fire-fighting. It takes more than a blue flannel shirt to make a fireman these days.

The differences of opinions that prevail among our fire officers upon this as upon practically every other question of strategy or modern methods are in the highest degree confusing and may in most every case be traced to the conditions under which these officers have learned their business.

Some fire officers are indifferent; they make no special study of fire, either preventing or fighting, no particular practice is gone into to fit him for his job. Investigation and experience have shown that this system is wrong and I think most chiefs believe that it is wrong.

This is what retards the development of our educational progress and makes the opinions of fire officers less authoritative than they might otherwise be.

Fight Fire by Understanding it

But today, thanks to the Department's fire college and drill school no chances are taken as of old; they are now training the fireman to fight fire by understanding it.

Sounds absurd, doesn't it? Not at all. He learns to fight a blaze at the closest range. He runs into fire, not from it. The theory is explained and then the practice performed. He memorizes the act and then gets his hands and feet to do it.

What Happens in Departments Without Training

In departments where no special effort is made to school or drill the men you will find the following:

Officers who have served for the most part of their lives in districts in which frame residence buildings abound will, when placed in command of a department, fight against the venting of a structure.

Those who have been placed in command of a fire department with no experience do not understand what venting means.

Officers who have served for the most part in a district in high value and commercial districts will, when placed in command of a department, favor prompt ventilation.

What Happens without Ventilation

Are there not thousands and thousands of fires occurring every year throughout this country, incipient, of course, at the moment of their origin, even incipient when the alarm is sent in, and still incipient when the fire department arrives, which could be extinguished very quickly and with little damage to contents or structure, but for the fact that something had accumulated that frequently delays, and on occasions prevents, the fire department from reaching the seat of the fire?

Now! What had accumulated?

Nothing but gases, heat and smoke, the most powerful barrier the fire department knows.

Some fire departments depend entirely on the strong physique, grit and stamina of the firemen engaged in fighting this fire, who willingly and cheerfully assume the risk of death by suffocation, severe physical suffering or permanent disability in their efforts to overcome it.

Venting Would have Prevented Death and Injury

The records of many fire departments will prove the accuracy of this statement, and will show that, at a considerable number of fires of insignificant proportions, firemen have lost their lives, and others in large numbers have received permanent or temporary injuries, of a greater or lesser degree, in their efforts to overcome the heat and smoke barrier and cause the fire's extinguishment, when the venting of the structure would have saved all this.

This statement is not an exaggerated one, and for confirmation as to its accuracy, let each fireman give thought to the fires that he has operated at during his time of service in the fire-fighting game and calculate upon the frequency with which he came in contact with heat and smoke at fires of trivial proportions, when, if it were not for the presence of the heat and smoke, they would, in the language of the fireman, have been extinguished with "a dash of water."

It does not require much knowledge of fire-fighting to be able to appreciate the effect of proceeding upon the theory that there should be no opening up or ventilating until fire is under control where it is applied to a fire in a heap of rubbish on the upper floor of a large six or eight or even ten story building heavily stocked with silk or other expensive clothing materials. What would the damage, due to combustion, be in comparison to the damage by water and smoke if the officer in charge of this fire cooled it down with hose lines to find his fire? A comparatively small fire in a pile of rubbish, or even in a metal receptacle, such as is used for holding clippings and combustible refuse generally, may generate sufficient smoke to charge a large floor area so heavily as to make it impossible for firemen to remain on the floor sufficiently long to locate the fire unless the structure is ventilated.

Smoke or heat prohibits the advance of the first line of hose, so that its output of water can not be distributed over the fire area, and other lines have to be stretched in and additional water thrown into the structure.

Damage by Water and Smoke Can be Avoided

The officer reaches the seat of the fire after a prolonged battle, the smoke clears up, and looking about him he views the small area that the actual fire had come in contact with, and he can, at the same time, view the large area covered with valuable stock that has been damaged by water and which had not been touched by the fire, and then he goes downstairs on the other floors and looks at the valuable stock damaged by the water and smoke and he may meet the owner or the insurance men and tell them what a job they had stopping the fire.

Does not a result of this kind justify the theory that a building involved with fire should be vented at this or that point where it will quickly cause the liberation of the gases, heat and

*From paper read before the annual convention of the Illinoih Firemen's Association, at Kewanee, Ill.

smoke confined in the structure which will be of material value to the firemen working to extinguish it?

The prompt liberation of the heat and smoke creates a condition in thousands of operations that permits a more speedy advance of the line or lines to the seat of the fire, and its extinguishment is more prompt, which is the object we are trying to accomplish.

Common sense will show you that prompt ventilation of large floor areas and of buildings render it not only desirable but essential to any reasonable degree of efficiency, that buildings be opened up at the top and have windows opened before hose streams are brought into operation, except in cases where heat is so great that firemen could not enter the floor even if the smoke were to lift sufficiently to permit them to crawl beneath it.

Let it be clearly understood that it is not claimed that the venting of a structure is solely responsible for the extinguishment of a fire, or that it would have any great value in cases where, upon the arrival of the first officer, it was found that the fire had extended throughout a structure or nearly so, but these instances are only a small percentage of the total number and are only referred to for the purpose of bringing about a clear understanding of the theory.

Reasons for Ventilation in Business District

The great height of buildings in the business or commercial district is an additional reason for opening up before using water, for not only is the water damage rendered less where ventilation is first accomplished, but the damage from smoke will not be so great when prompt ventilation is effected as where there is delay in this particular.

The large amount of stock in this district, and the fact that this stock must be maintained in salable condition, renders the financial loss due to smoke and water greater in proportion to the actual destruction by fire than in the case of household goods.

The fact that the business houses are provided with strong, securely fastened doors and are frequently fitted with shutters, renders them more difficult to open than residence buildings, thus making it unlikely that they will be opened before hose streams are available.

Water supply in the business district is generally sufficient and reliable; hence there is little likelihood that a failure of water will result in great damage.

The location of the business district, in the center of population, makes for boldness in fire-fighting operations because of the rapidity with which fire force can be concentrated there.

Owing to the design of the business buildings, fires in them do not spread as rapidly as do fires in residences.

From the foregoing you can see that I advocate and state it is a safe practice to follow to ventilate in the business district.

Officers on Arrival Should Ventilate Promptly

An officer on his arrival should be on the alert and give thought to the venting of the structure, without a moment's delay. He should consider the fire's location or the line of its possible extension, and open up such portions of the structure as common sense and experience dictates.

"Open up," as the term is used in the fire department, includes the opening of skylights, scuttles, doors, flooring, roofs, iron shutters, gratings, dead lights, windows, coverings over elevator shafts, stairways, light and air shafts.

The Objects of Ventilation

The objects of ventilation are two-fold. First, releasing the pressure and heat caused by the fire so that hose streams can get to work at proper range and kill the fire, and second, to draw the fire up one channelway and prevent its mushrooming into larger areas, or extending.

Special cases require ventilation throughout a building due to the presence of explosive or poisonous gases. In this case the largest possible area should be opened up for quick ventilation.

The speed with which the department works in extinguishing the fire depends primarily upon the speed with which the men can enter the burning building. This in return depends directly upon how promptly and thoroughly ventilation is accomplished.

Do Not Open Windows, etc., which Constitute Exposure

One of the precautions which must be observed in ventilating is not to open up any door, window, or other opening which would directly hazardize adjacent property. Indiscriminate opening of windows and doors on all floors is not in every case advisable. Take for instance the case where a fire is burning in the basement of a building near the elevator shaft or stairwell and burning fiercely. When the housing or roof covering directly over the shaft is opened up, the fire will sweep directly up the shaft and will be drawn toward the shaft in the basement. If the shaft were not properly enclosed and if the windows on all floors were opened, there would be a danger of the fire being drawn out onto the other floors and away from the channel from which it was intended to pass. Thus, the condition will determine whether or not it is necessary to open windows and doors.

In the case, however, of a building being completely filled with smoke, then ventilation by opening all windows and doors is desirable, providing there is little danger of the fire being spread through the building by doing so.

Officer Should Feel Pride in Operations without Damage

An officer in charge of a fire should have considerable pride in an operation that has been carried on under his direction where no unnecessary damage to property has resulted from the work of the force engaged in extinguishing the fire.

And there are occasions when an officer will hesitate as to opening up this or that portion of a structure; he has to order that plate glass or some other part of the structure be broken or damaged; he will not assume the responsibility as his own, or it may be that there are standing orders from a superior that prevent his doing this or that thing that is vitally necessary in preventing the fire's extension or of assistance in its quick extinguishment.

If you understand the principle of ventilation, let there be no hesitancy whatever as to the venting of the structure; the small money value of the damage you may cause is nothing as compared to the value of the structure and its contents, and thousands of cases could be cited where conditions threatened the loss of the structure, but prompt venting of it resulted in a comparatively small loss to the building and its contents.

Some Pointers in Ventilation

The direction of the wind must also be taken into account when a building is being ventilated. This is particularly true in cases where the roof is being opened up, or where scuttles are being removed, for the fire may be driven to adjacent property. If the wind is in the wrong direction even opening windows and doors may drive the fire toward exposed property and thereby increase the extent of the fire.

The atmosphere has some effect upon good ventilation, but not such a great effect when the fire is a hot one.

Where there is heavy, dense smoke and gases, a heavy atmosphere means that the smoke and gases will rise slowly, and, in fact, they may sink to the street around the burning structure and prove troublesome.

A cold, dry day is an ideal one for good ventilation.

A warm, humid day is unsatisfactory.

But ventilation must be resorted to in any case to make it possible for men to enter the burning structure.

In closing I will give you my way of summing up the theory of ventilation:

Prompt venting in commercial or business districts.

Extreme caution in venting in frame building districts.

Prompt venting of tops of stairwells.

Cautious ventilating of all points in hotels, hospitals, tenement, apartment and lodging houses.

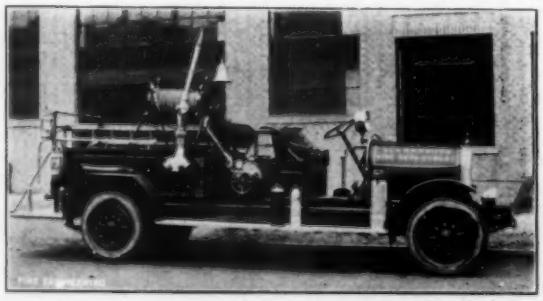
For the liberation of heat and smoke, open up at the top.

But for the liberation of carbon monoxide or other heavier than air gases or vapors, make opening to outer air at or near the floor level where they are confined.

Life must receive first consideration upon arrival at the fire.

Ventilation should be next, but ventilation should not precede the getting of streams into operation. In other words, it is dangerous to ventilate unless streams are ready to follow up.

Ventilation depends upon conditions, but under most conditions any part of a structure can be ventilated if judgment is used.



New American-LaFrance Cosmopolitan combination chemical and hose car recently delivered to the fire department of Clarksburg, W. Va. The apparatus is equipped with a single 40-gal. chemical tank and has 1,200-foot hose capacity. Other equipment includes an Invincible nozzle with a three-way siamese. The apparatus has been accepted by the city.

Essentials in Handling Large Oil Fires

Conclusion of Paper on This Subject—Improvements in Fire-Banks—The Foam System of Extinguishment—Protecting Fuel Oil Plants

By M. B. ANFENGER, Engineering Department,
Standard Oil Company of California

THIS paper, which is concluded from page 37, FIRE ENGINEERING, January 10 issue, is the result of careful study and research into the origin, peculiarities and methods of fighting fires in oil tanks. It is full of practical suggestions for the fire chief who has this problem to wrestle with:

Improvements in Fire-banks

The most serious menace from a crude oil fire comes when it boils over. If the boil-over can be held within prearranged fire-banks, there is no further difficulty; but fire-banks have not always proved effective, and we therefore turned our attention to the possibility of improving fire-bank design. Here again we turned to small model apparatus, as tests on full size tanks with fire walls would have been impracticable. We therefore set up the apparatus shown diagrammatically in Fig. 8. A segment of the "tank" from which the "boil-overs" were discharged is shown, and model walls of various sizes and shapes were set up—the whole outfit being made to a scale of about one inch to the foot. Altogether in these tests we made some 66 of these walls, and allowed 1,000 miniature boil-overs to flow against them. These tests showed that all the present types of wall could be vastly improved by the application of the old sea wall principle of folding the advancing waves back on themselves.

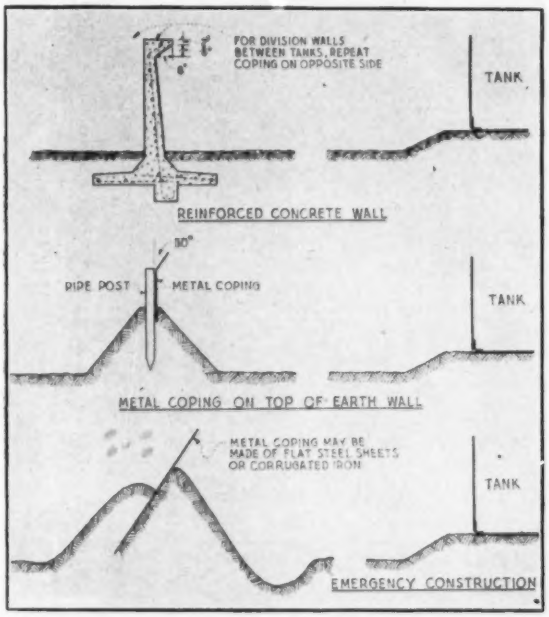


Fig. 10. Some Practicable Methods of Applying the Principle of the Fire-bank.

Fig. 9 shows the comparative height of different walls which will fully retain the same spill. A one foot vertical wall with a coping is as effective for turning back the wave of oil from boil-over as a four foot plain vertical wall or a five foot earth dyke with a slope of 1 to 1, or a seven foot earth dyke with a slope of 1½ to 1.

Fig. 10 shows a number of practicable methods of applying this principle. That this principle is not just an experimental theory was demonstrated soon after the tests by a fire in one of the California fields, as shown in Fig. 11. A tank of crude burned and boiled over, the tank being distant 160 feet on practically level ground from the company's wooden frame pumping plant. By building temporary earth fire walls topped with a flare-back of corrugated iron, the station was protected from ignition.

So much for the tests that we have conducted with the view to increasing our knowledge of behavior of burning oil tanks and protecting against spread of fire by boil-overs.

The American Petroleum Institute made in the early part of this year a very comprehensive survey of the records of all oil fires that have occurred in the United States during the past ten years. I believe that this is one of the most thorough investigations of fire records that has ever been made in this country, and it has yielded some very interesting results. The entire report has been published, and any of you can obtain a copy by addressing the American Petroleum Institute in New York City.

Contributions to Knowledge of Oil Fire-Fighting

There have been several other contributions in recent years to the oil industry's knowledge of fire protection. Summarized, the more important developments have been—

1. Fire resistive oil storage tanks.
2. Tank appurtenances which minimize fire hazards.
3. Recognition and elimination of fire hazards.
4. Knowledge regarding the behavior of oil fires.
5. Fire walls of a design which will more effectively control a flow of oil.
6. Effective oil fire-extinguishing systems.

Going into a little more detail regarding these developments, we can say that a modern oil tank, properly equipped, is very fire resistive. Many cases are on record where flames from exposing fires have enveloped tanks containing gasoline without damage to tank or contents.

The modern all-steel tank has an excellent fire record as regards lightning, and is believed to be immune from the lightning hazard. This is important because statistics show that 55%

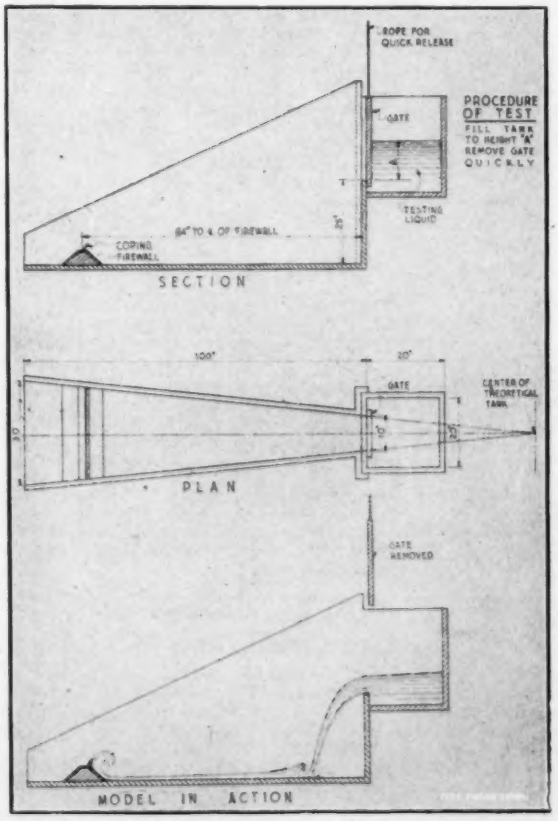


Fig. 8. Model for Testing Wave-Stopping Ability of Fire-banks.

of the oil-tank fires in the last ten years were caused by lightning.

Static electricity has been blamed for many oil fires, and has quite likely caused several. During the last few years knowledge has been gained regarding static phenomena, and practices have been introduced which tend to protect oil risks from this hazard.

We have learned what to expect when an oil tank is on fire. We know now that if a tank contains a refined oil (gasoline, kerosene, distillate, etc.,) and is ignited, it will burn quietly until it is extinguished or the contents entirely consumed. There is no danger of an explosion or a boil-over which will force the oil out of the tank.

Protecting Fuel Oil Plans

In the case of fuel oils, which are usually the only other oils found in cities, we know that there is a possibility that the oil

Fig. 11. How a Wooden Pumping Plant of California Oil Company Was Protected by Temporary Earth Walls, Surmounted by a Flareback of Corrugated Iron, When a Tank of Crude Oil Boiled Over.

will ultimately boil out of the tank if the fire is not extinguished within the first few hours after ignition. We have learned, however, to fairly accurately predict the time when we may expect a possible boil-over, so that we can utilize the time before this boil-over to prepare fire walls, etc., to control any flow of oil, and to take the necessary precautions to avoid anything from being endangered by the flow of oil from the boil-over. As a matter of fact there is little likelihood of the occurrence of a fuel-oil fire. Most of the fuel oils have a flash point above 150° F., and it is extremely difficult to ignite a tank of fuel oil with paper and matches.

Progress in Extinguishing System

Considerable progress has also been made in developing effective extinguishing systems for oil fires. Fire records show cases where tanks containing 80,000 barrels of gasoline on fire have been quickly extinguished with foam systems. These tanks are 120 feet in diameter and 40 feet high, and when we consider that at the surface there are over 12,000 square feet of gasoline burning at one time, it shows that the method of extinguishment is quite effective.

Fig. 12. Triple Combination Cars of a Fire Department Functioning as Pumpers for Foam Solutions, in an Oil Field Fire.

The details of many of these problems are more for the fire protection engineers of the oil companies than for the fire chiefs, who have no time for anything except high lights on the subject. Probably what the fire chief is principally interested in is how to prevent these fires, and what he can do to more effectively combat a fire of this character. I will therefore briefly discuss these two phases of the subject.

Fire prevention in the oil industry is largely a matter of proper construction detail; although, of course, good housekeeping is

(*Continued on page* 87)

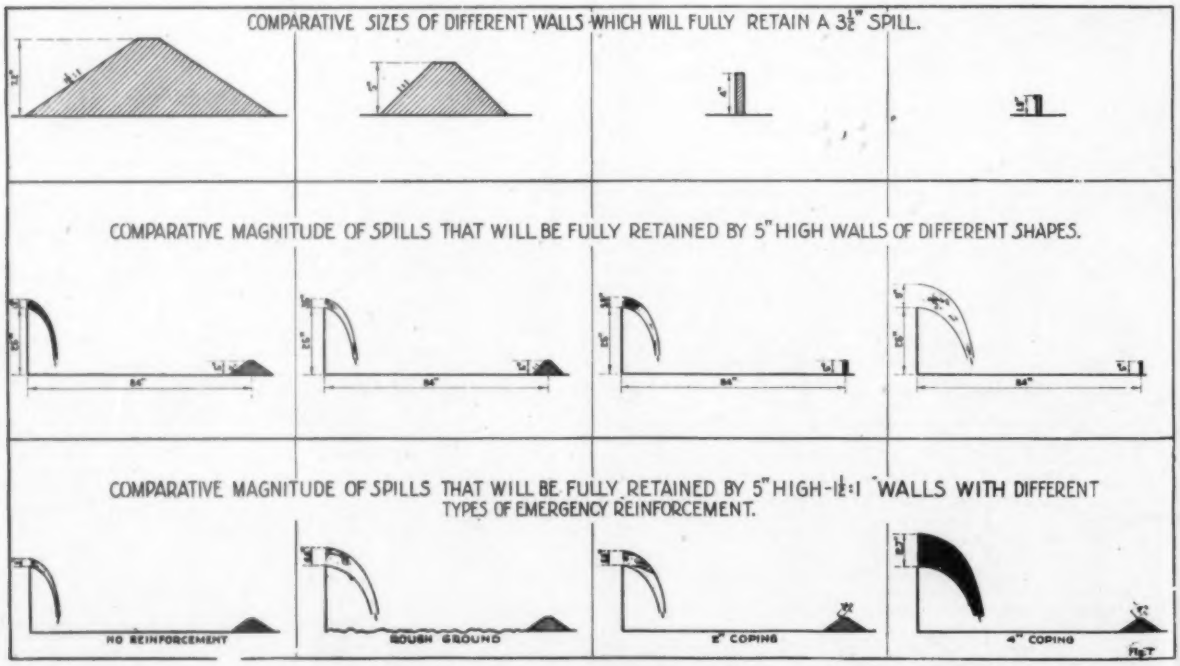

COMPARATIVE SIZES OF DIFFERENT WALLS WHICH WILL FULLY RETAIN A 3½" SPILL.
COMPARATIVE MAGNITUDE OF SPILLS THAT WILL BE FULLY RETAINED BY 5" HIGH WALLS OF DIFFERENT SHAPES.
COMPARATIVE MAGNITUDE OF SPILLS THAT WILL BE FULLY RETAINED BY 5" HIGH 1:1 WALLS WITH DIFFERENT TYPES OF EMERGENCY REINFORCEMENT.
NO REINFORCEMENT
ROUGH GROUND
2" COPING
4" COPING

Fig. 9. Comparative Height of Different Walls Which Will Fully Retain the Same Spill.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

THE WORK OF THE STATE FIRE MARSHAL

THIS third installment of the University of Illinois Course in Fire Prevention embodies the second part of an address by State Fire Marshal John G. Gamber, of Illinois—the originator of the course—on the work of his office and of the State Fire Marshal in general:

Chief Must Take the Lead in Inspection Work

On our inspection work what we want to do is to cooperate with the chiefs and fire departments throught the State, but in doing so we want the chiefs and city officials to bear in mind the old saying that "God helps them who help themselves." If you are not going to take the lead, blaze the way in your own city and pass the necessary ordinances, we are almost powerless to do very much in your city. With a force of forty or forty-five men in the department you can readily see we can only scrape the surface and, when called upon by the chiefs in the different cities, we attempt to take care of the most pressing needs in those cities.

As I said, last year we made 65,000 inspections, but that doesn't mean the rechecks. Every order that is issued is rechecked. We attempt to select, in a community where we are unable to get very much compliance, several of the most drastic cases or the most neglected places and if the fellow will not respond to our request, we convince him by issuing a summons and letting him appear before the judge and tell the judge his troubles. By making a few prosecutions in the different communities, it makes the other fellow sit up and take notice and he starts to clean up and comply. In some communities we have had to arrest ten and fifteen men and have them fined from $10 and costs to as high as $50 and costs, which in some instances will amount to about $63 or $64. Those fellows will immediately start to clean up, because we have made it a rule after a man has been fined, to serve a five day notice, and if he does not make an effort in the five days to comply, we take him for another ride to the justice of the peace, and in some instances the justice is kind enough to make the fine double the amount of the first.

Dumped Gasoline in Sewer

We gave an experience of a gentleman in southern Illinois who was in the habit of dumping gasoline in the sewer. The fire chief had called upon this fellow and he told the fire chief to go to the hot place; that he was running his place of business. The fire chief tried to get the mayor to do something and the mayor would not back him up. The fire chief called me on the telephone, said he did not dare to write as he did not want anything of record. We sent our man there six hours after the chief called me. We served notice on this fellow. He did the same thing that night. The next morning we took him to the justice of the peace and he gave him a fine of $100 and costs. Three days later he did the same thing and was defiant; said they could not fine him this time. We pulled him in again and the judge gave him $200 and costs. That fellow is a real dyed-in-the-wool fire preventionist in that city now. We have no more trouble with him.

Cooperation with Fire Marshal Necessary

These are the things we have to contend with. We want your support in it. We are willing to go the limit for you. If you can not get your own city officials to back you up, we will back you up, but I want you to make the effort first, show us that you are with us and we will go the limit with you. With that kind of cooperation there is not any question but what we can make a record and a showing in the state.

That same thing applies to the incendiary question, where you have questionable fires. We will help you whenever we can. Get word to us as quickly as you can and we will try to help you clean up and get rid of the firebugs, but in the meantime, watch the fellow sitting on high and giving instructions to the jury. If he is not right, there is a day of reckoning coming for him. You as firemen are the men entering the places that have been set by these crooks, not knowing whether you are going to return to your enginehouse or family that you left in the morning. If the fellow who sits on high gives instruction as he did in this case I cited to you, let's figure with him at the next election. He has no business on the bench. Where he belongs is over in Russia and they will make short work of him there if he ever gets there.

Should Have Fire Prevention Bureau

Before closing, I want to mention some ordinances that are necessary. Where a city is large enough to warrant it, you should have a fire prevention bureau. If not a real bureau, you should have men who are assigned to do nothing else during certain periods of their hours on duty but make inspections.

It is the little hazards, the rubbish and trash, that cause a great many of the fires that we are having. Get rid of the rubbish in your city or in your village and you are going to get rid of pretty near one-half of the fire causes you have. Every community should enforce strick regulations on this subject.

Necessity for Anti-Wooden Shingle Ordinance

Next in importance is an anti-wooden shingle ordinance. I am sorry to say that there are a few cities in the state of Illinois that are going backwards along that line. Two or three cities in the northern part of the state have repealed the anti-wooden shingle ordinance because the mayor, in some instances, is the lumber man of the city. He is not doing anything for his city, he is only causing trouble. During the last year in Illinois we had about 1,600 roof fires, all due to wooden shingles. The fires that you have due to wooden shingles are the ones that strike nearest to our hearts. They are in the homes, where your loved ones are and you never can tell when a wooden shingle roof starts to burn what it is going to do to the neighbors or the houses in the block, or for blocks away. Practically all of the big conflagrations we have had, such as Baltimore, Paris, Tex. and Berkeley, Cal., have been due to wooden shingles.

I remember a few years ago, when the International Association of Fire Engineers met in California, I was walking through the city of Berkeley with the chief from Buffalo and the secretary from Detroit. We were walking through the city to make a survey and I made the remark to the chief from Detroit, "what would ever happen in this town if a good wind storm and a roof fire got started?" He said, "Don't talk about it." It was only about a year afterwards when the message was flashed over the wires that Berkeley had practically been burned down, all due to the wooden shingles. It started on one house that was near a ravine going into the mountains. A good puff of wind coming down that opening started this blaze going and the sparks flew from roof to roof. You, as firemen, recall the reports you saw the day the message flashed over the wires. I got telegrams from three chiefs who were with me on that survey, just saying, "it has happened." I knew what it meant.

Both North and South Carolina have had some disastrous wooden shingle fires, and there have been several in Texas.

Are we going to learn that the time to act is today? We must protect ourselves and the only way we can do so is to get the proper ordinances passed.

We should have in every city in the state of Illinois an anti-wooden shingle ordinance. The time is coming when we are going to make it statewide.

If there are any questions anybody wants to ask I will be glad to answer them if I can.

DISCUSSION

PROFESSOR PROVINE—In your inspections you are looking after fire inspections as well as fires from the incendiary point of view?

MR. GAMBER—Yes, sir.

PROFESSOR PROVINE—The larger towns have certain ordinances and when you go into a community to investigate, what ordinance prevails?

MR. GAMBER—On the question of investigations, very few cities have any ordinances that cover that feature. That is part of the criminal code, written into the criminal statutes of the State and we make the investigations under the criminal code with the authority given the State Fire Marshal's office. As to inspections for fire hazards, the law provides we shall have concurrent jurisdiction in cities where they have ordinances, and we go out with the fire chief or some of his men he may assign and we make the order to comply with the city ordinance and prosecute under the city code. Does that answer your question?

PROFESSOR PROVINE—May I ask one more question?

MR. GAMBER—Yes, sir.

PROFESSOR PROVINE—Take an example, purely imaginative but in a community which does not exist except in my mind, I feel its public auditorium is not properly safeguarded from an exit point of view as well as a fire hazard. What will be the rule of procedure for me to report this to you? I am powerless in my community to do very much.

MR. GAMBER—Report that a certain building has not proper exit facilities or is so situated it is dangerous as to fire, also dangerous as to life and we will assign a man to make an inspection.

PROFESSOR PROVINE—Is it desirable or necessary that it go through the local fire department? They are cooperating with me but have been powerless.

MR. GAMBER—Unless we had information that the chief himself was lukewarm on the matter, the deputy would have instructions to go to the fire chief first, take the matter up with him and then proceed to the building and if possible take the chief or some man assigned by him with him.

MR. WILLS, South Elgin—Would it not be the part of wisdom relative to the wooden shingles to have a committee of some kind appointed to wait on the legislative body of the State of Illinois to see if a law could not be enacted to condemn the use of those shingles?

Mr. GAMBER—I say yes and no. We are going back to the trend of local or home rule and I just want to reiterate what I said before that it is a question of, "God helps them who help themselves." I realize that sometimes it is almost impossible in a community to put over a thing, therefore, we try to supplant that by a State law. If I may just suggest: A few years ago I saw it coming and I guess a good many of you saw it coming, the gasoline proposition in filling stations. I knew it was only going to be a matter of time until we would have filling stations on almost every corner, as numerous as the thirst parlors were some years ago, so we made an effort to get some cities to pass ordinances. We did not get very far, so I went before the legislature and secured passage of a bill giving the Department of Trade and Commerce, under which we operate, the right to make the necessary rules regulating the sale, storage, transportation, etc., of gasoline and all oils, including fuel oil. We immediately proceeded to get up a set of rules. We printed some 20,000 and distributed them throughout the State. Where the city or village does not pass an ordinance, it comes within the provisions of those rules and it is up to the State fire marshal to regulate handling of oils in such cities and villages.

Mr. LEWIS, Canton—We have an ordinance in the city of Canton and I would say they don't get by with anything else. The city officials back us up to a man.

Mr. HAMMERER—Does a retail merchant have a right to retail gas by the gallon in his place of business?

Mr. GAMBER—We provide that he cannot have over five gallons above ground and that must be in a safety can. If he has it only in a five gallon lot, he can not very well retail it.

Mr. GAMBER—He would not have very much of it.

R. H. BRADBEEN, Spring Valley—In a case where you thought a building had been set on fire and you wanted to take legal procedure, would it be best to take it up locally or take it up with the state fire marshal?

Mr. GAMBER—If you have a sheriff who will cooperate with you and give you support it is all right to take it up with the sheriff. The chances are he will notify us anyhow, but I would as leave you would notify us direct.

Mr. BRADBEEN—But from a legal point of view you can take it up either way?

Mr. GAMBER—Yes. We would have to operate through your state's attorney anyhow.

Boyer Heads Ironwood Fire Department

The new head of the Ironwood, Mich., Fire Department is Will Boyer, who succeeds Chief Ernest Dear, retired.

The City last April adopted the commission-manager form of government, with Isaac Chouinard as director of public safety.

Under the new form of government of Ironwood, Mr. Boyer bears the unusual title of "Captain" as applied to the head of the fire department. The director of public safety of the city is in charge of both fire and police departments, and the heads under his authority bear the titles of "captain" instead of "chief."

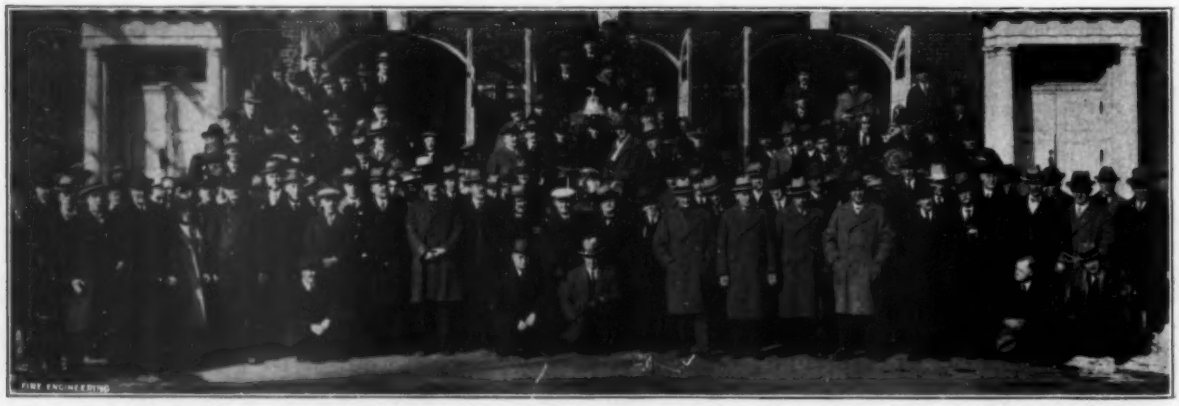
Captain William Boyer, Head of Ironwood, Mich., Fire Department.

Captain Will Boyer has a record of long service, having been connected with the fire department of Ironwood since 1895. Mr. Boyer served as a full paid man from 1901, filling the positions of driver and foreman and finally being made chief, which post he held until 1919. He now has been restored to his former post in the fire department but under a different title.

Norristown, Pa., Holds Memorial Service

The fire department of Norristown, Pa., held their nineteenth annual memorial service in memory of the firemen who died during the past year. The services were in charge of Rev. Berry, pastor of the First Baptist Church. The services included several hymns, roll call of the departed members, solo, prayer and sermon.

During 1925, death claimed twenty-one members of the department. The memorial program was in charge of Chief Peter V. Hoy and a memorial committee of the Norristown Firemen's Union and Relief Association. The Norris, Montgomery, Humane, Fairmount and Hancock companies were represented on this committee.



Members of the New Jersey Fire Chiefs' Association Com prising Chiefs from All Parts of the State, Gathered at Their Quarterly Meeting at Milburn, N. J., on January 14.

Effort to Extinguish Fire Results in Extension

Attempt to Hold Film Exchange Fire and Extinguish It Permits the Fire to Get Away from Apparatus on Hand and Extend to Adjacent Hotel Building

THE fire described in this article of the series on Administration treats with a blaze which originated in a film exchange building and which subsequently extended to hotel and store buildings immediately adjacent thereto.

This fire occurred in a large northern city where plenty of apparatus is available for operation at fires.

The building in which the fire started was a three-story brick and joist constructed building used for the storage of inflammable motion picture films and repair of such films.

The ground floor of the fire building was employed largely as offices while the upper floors were used for storage and repair respectively.

Fig. 1 shows the hotel building and the adjacent buildings lined up on Brown Street.

To the rear of the hotel building is the film building as shown in Fig 2.

Surrounding structures as well as streets, and the location of hydrants, are shown in Fig. 2.

The hotel building, which covered a space of approximately 200 x 300 feet was 4 stories in height, of brick construction with wood floor beams and wood finishing throughout.

It had open stairways at two points in the building and an open elevator shaft with open grill work on each floor.

The two-story restaurant adjacent to the film building was of brick and joist construction as was also the three-story store adjacent to the hotel building.

Other buildings are as shown in the diagram.

Just how much film was stored in the film exchange is not known, but judging from the extent of the fire and the terrific heat generated by it, it was apparent that great quantities must have been at hand. This establishment had in storage a vast amount of old films which were out of circulation, as well as films which were being repaired for reissue.

The Fire Department

The fire department in this city consists of 41 engine companies and 18 ladder companies as well as a number of hose tenders which accompany the engines in high value districts.

Approximately half of the engine companies are accompanied by hose tenders in the section in which this fire occurred, and the remaining engine companies have triple combination machines.

The hose tenders are equipped, in the majority of cases, with deck guns.

There are a number of light combination chemical and hose

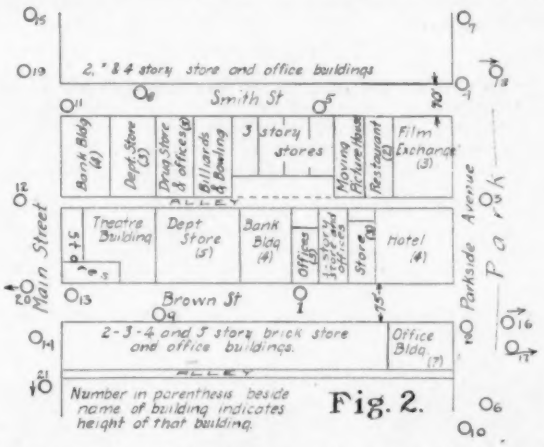


Fig. 2.

cars which are used in suburban sections but as these did not report to the fire they will not be included in the apparatus available.

The response to alarms was as follows:

Alarm	Engine Companies	Ladder Trucks
1	4	2
2	8	4
3	12	4
4	16	6
5	20	6

These figures are for the total amount of apparatus responding on each and previous alarms. For instance, on the third alarm the response is given as 12 engines and 4 truck companies. This represents those engines responding on first and second alarms as well as trucks.

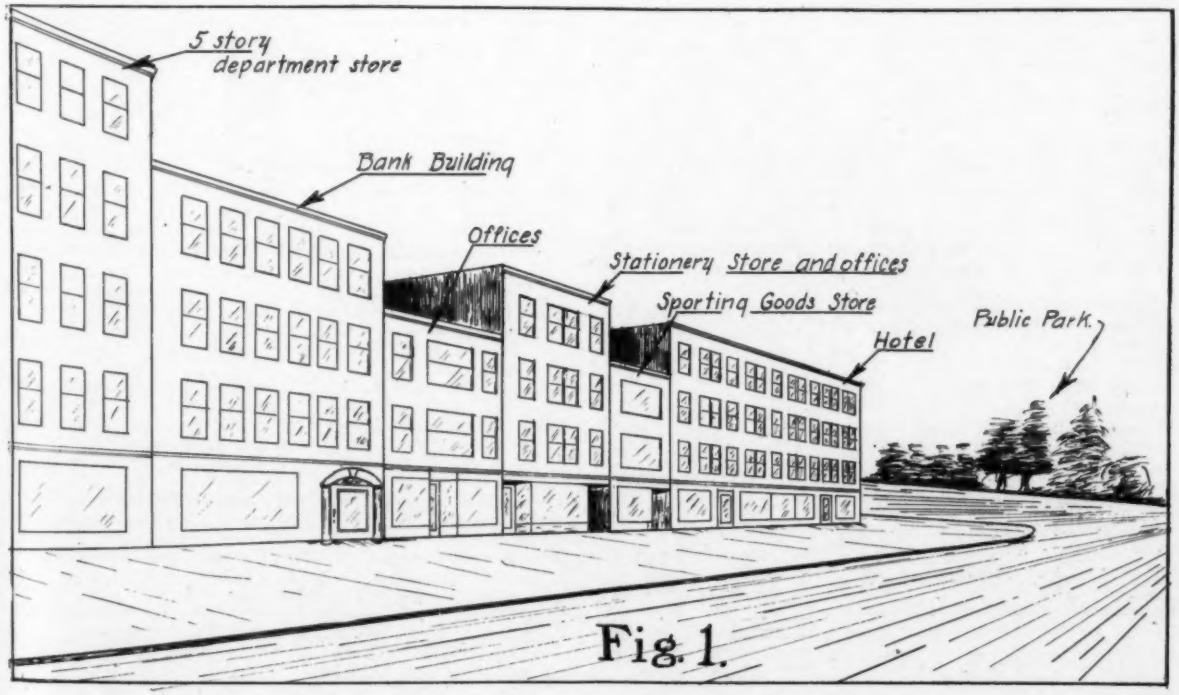


Fig. 1.

For simplicity in the description of the fire the engine company numbers will be assumed as follows:

First alarm, engine companies Nos. 1, 2, 3, and 4 and truck Nos. 1 and 2.

Second alarm, engine companies Nos. 5, 6, 7, 8, and trucks 3 and 4.

Third alarm, engine companies Nos. 9, 10, 11, 12, and no truck companies.

Fourth alarm, engine companies Nos. 13, 14, 15, and 16 truck companies 5 and 6.

Fifth alarm, engine companies Nos. 17, 18, 19, and 20, no truck companies.

The Fire

At the time the fire occurred the weather was cold, though none of the hydrants were found frozen. There was no appreciable wind at the time the department responded.

It was customary for the engineer of the film building to open up his fire at about 6 o'clock in the morning to get the building warm for the day.

He had apparently gotten the fire properly under way and was making a tour of inspection through the building to open up radiators and see that they were in proper shape when, upon opening a door, he noted heavy fumes from decomposing celluloid.

Judging from the position in which he was later found he had apparently gone up the stairway at the rear of the building to

Fig. 3.

the second floor and had opened a door leading into the second floor when an explosion occurred from fumes of decomposing celluloid which resulted in his death. He was found at the window on the second floor dead, his body being badly charred.

The fire was discovered about 6:30 by a passerby who immediately transmitted a box alarm.

Response to the first alarm was as noted above and this response was in charge of a battalion chief.

Immediately upon arriving at the fire the battalion chief assigned his apparatus as follows:

Engine Co. No. 1 at hydrant No. 4, stretching two lines to fire building and operating on ground floor on Smith Street side.

Engine Co. No. 2 to hydrant No. 3 and stretched one line to fire building and attempted to make the stairway on the ground floor.

Truck Co. No. 1 assisted this engine company in opening up and getting the line in the building.

Upon attempting to make the second floor there was apparently a big flash on the floor above and the men were quickly ordered out. It was apparent that it would be unsafe to attempt to operate any lines within the building due to the presence of heavy celluloid fumes which might explode at any time.

At this time members of the second truck company were ordered to go to the roof and open up. But due to the fact that there were continually occurring heavy flashes or explosions from the fumes igniting, and these flashes driving flame out of the windows both on Smith Street and Parkside Avenue as well as over the roof of the two-story restaurant, it was impossible for the men to make any headway.

Twice or three times they attempted to get to the roof to open up but no success attended their efforts.

They thereupon opened the windows on the first and second floors on both the Parkside and Smith Street sides, operating from the street.

Engine Co. No. 3 was placed at hydrant No. 5 stretching one line through restrauant building to the rear of the film exchange.

This line only got in operation when a large flash-back occurred driving the men from the alley and nearly striking them.

This line thereupon operated from the rear of the restaurant and endeavored to cover the rear of the hotel building with a stream.

Engine Co. No. 4 was assigned to hydrant No. 2 and stretched one line to Parkside Avenue side of the fire building and operated through the second story window from the street.

At this time the battalion chief noting that it would be impossible to control the fire in the film exchange with the apparatus on hand transmitted a second and then a third alarm. Upon the arrival of Engine Co. No. 5, the first apparatus on the second and third alarm, this engine was assigned to hydrant No. 1 and stretched a line to the second floor of the hotel to operate across the alley.

There was little success due to the rapidly increasing intensity of the fire in the film exchange, for the line had to back away from the window of the hotel several times in order to give the men a chance to cool off.

Engine Co. No. 6 was placed at hydrant No. 8 and stretched a single line to the roof of the two-story resturant alongside of the fire building. This line operated in on to the fire but apparently had little effect for the fire increased in intensity.

Engine Co. No. 7 was placed at hydrant No. 9 and stretched one line to the roof of the hotel building. This line later was forced to retreat by fire entering the hotel building and making their position dangerous.

Engine Co. No. 8 was assigned to hydrant No. 6 and stretched a line to the rear of the hotel on the ground floor and operated on the fire. This line also operated at a distance for it had to stay well away from the rear wall of the hotel in order to operate on the fire.

At this time the chief of the department arrived and noting the dangerous situation immediately transmitted a fourth alarm.

The arrival of the apparatus on the third and fourth alarm (which was rolling in with some of the apparatus on the second alarm) was handled in assignment as follows:

Engine Co. No. 9 was placed at hydrant No. 7 and Engine Co. No. 10 at hydrant No. 18. These two engines stretched in single lines to a deck gun placed on Smith Street opposite the fire.

Engine Co. No. 11 was placed at hydrant No. 10, Engine Co. No. 12 at hydrant No. 16 and these two engines each stretched a line to deck gun on Parkside Avenue opposite the fire building.

Engine Co. No. 13 was placed at hydrant No. 17 and stretched one line to the hotel and on up to the second floor. No progress was made on account of the rapidly increasing intensity of the fire in the hotel which apparently at this time had entered on the second, third, and fourth floors.

Engine Co. No. 13 was placed at hydrant No. 10 and stretched a single line into hotel by ladder to third floor. This line operated for a few minutes but was later forced to retreat by the fire spreading on the third floor of the hotel and fourth floor as well.

Engine Cos. Nos. 14 and 15 were placed at hydrant No. 9 and 13 respectively and each stretched a single line to a deck gun placed opposite the hotel on Parkside Avenue which endeavored to hold the fire at the rear of the hotel but without success.

From this point on fire rapidly involved the hotel, reached the 3-story store alongside as well as the 4-story store and offices and the 3-story offices as shown in Fig. 2 and Fig. 1.

From the situation at this point the chief determined that it would be best to let the fire burn in the film exchange and endeavor to cover exposures.

Efforts were therefore made to hold the fire and good work was done in keeping it from reaching the 2-story restaurant building although the 4-story hotel and other stores directly to its rear were involved and subsequently destroyed.

It was necessary to transmit a fifth alarm before the fire was finally brought under control.

However, the department deserves credit in making their stand and holding the fire as they did, once it had gotten beyond their control in the 3-story film exchange.

The water pressure at all times was good and there was no shortage of water.

As it was the following buildings were destroyed: Three-story film exchange; 4-story hotel; 3-story store; 4-story store and offices; 3-story offices; all in line with the hotel building.

The Editor's idea on handling this fire will be given in the next issue of FIRE ENGINEERING.

WITH THE EDITOR

The 2% Tax and Pensions for Firemen

A PARTICULARLY striking fact is brought out in the tables published in this week's issue, giving data as to the levying by states of the 2% tax on insurance companies for the benefit of firemen. It is that several of the states in the provisions of the laws governing the uses to which the proceeds of the tax is to be put, specify that it shall be applied to the purpose of temporary relief for sickness and accident suffered by firemen instead of for pensioning them on retirement.

It hardly seems probable that laws containing such shortsighted provisions were framed with the advice and consent of the firemen themselves. Of course, the taking care of the sick and injured among the members of fire departments is important and essential, but such matters are usually under the auspices of firemen's benevolent associations.

At any rate, such matters are far overshadowed by the necessity for providing for the comfort and welfare of the members of fire departments who, after years of faithful service, are compelled to retire, through having reached the age limit, or on account of disability.

A few of these men have found it possible to accumulate a competence sufficient to take care of them when their salary stops. Thus, without a pension, poverty and distress will face them and their families, when they are least able to meet such a situation.

The subject of pensions would seem to be the one important matter for the firemen's state associations, to concentrate their efforts upon. If the laws are wrongly formulated it should be their endeavor to prevail upon the lawmakers of the state to provide amply for the men of fire departments who have given their best years to this splendid service to the city, so that they may pass the remainder of their days in comfort and without the sorrow of seeing their loved ones want for the necessities of life.

And this brings us to another phase of the two per cent question, which is the number of states that have failed so far to make this provision for their fire-fighters. Indications brought out in the replies to the questionnaire seem to point to the fact that before the end of the year many of these states will swing into line.

No doubt the firemen's association in the states where such laws do not exist will make strenuous efforts to have them placed upon the statute books. Also it is probable, in states where no association exist, such bodies will be formed with this object prominently in view. So that it would seem that 1926, or at least 1927, will see a great improvement in the pension situation throughout the country.

The object certainly warrants the best and most intelligent service that both associations and individual chiefs and firemen can give to its promotion.

Demolishing Buildings by Fire

DURING the past few months a large Eastern city has had a large number of fires in buildings which are being razed.

The interesting side of this epidemic is that the fires almost invariably occur at noon hour or just after quitting time.

And to make the subject still more remarkable, the fires never occur until after the valuable materials of the building have been removed by the wreckers.

Apparently some of these fires are other than accidental. The fact that they occur after the useful materials have been removed from the building, and occur at the time when the workmen are absent, creates suspicion.

So far no substantial evidence has been secured which would be sufficient to justify a charge of arson, but the similarity between fires, and the good start they usually develop before the fire department is notified would seem to indicate that some of them are "set."

Maybe some of those establishments engaged in wrecking buildings find that it is cheaper to burn the building and depend upon the fire department to save adjoining property than to complete their work in "wrecking" a structure.

Possibly evidence will develop which will make it advisable for the city authorities to bring action to collect the cost of extinguishing the fire from the offenders.

Sprinklers and Fire Departments

SPRINKLER leakage losses have been unusually severe during the past month, owing to the large number of freeze-ups resulting from the widespread cold spell during the holidays. In many sections of the country the severest weather came while establishments were closed for several days over Christmas, the following Saturday half holiday and Sunday, so that the damage was not discovered as quickly as would have ordinarily been the case.

In Chicago alone over 50 sprinkler leakage losses were reported in a few days after the zero weather. In one case the damage to a sprinkler system amount to over $20,000.

In addition to this, fire occurred in a number of establishments where sprinklers were located and due to freeze-ups the sprinklers failed to operate, giving the fire a chance to gain considerable headway.

Such experiences with sprinklers bring forcibly to mind the fact that sprinklers at best are only an aid to the fire

INDEX TO VOLUME LXXVIII

The Index to Volume LXXVIII, Fire and Water Engineering, ending with the December 30, 1925, issue, is now off the press and will be mailed to subscribers and readers on request.

department and can never be depended upon as a sole means of extinguishing a fire.

Fire fighting forces can never be reduced on the strength of general sprinklerage for the possibility of conflagration is nevertheless at hand, particularly during cold weather.

Controlling Location of Gasoline Filling Stations

AN ordinance of Minneapolis, Minn., provides that no building shall be erected for the storage or sale of oil or powder within the city, unless the party desiring to erect such building shall obtain permission from the city council authorizing the same, and the inspector of buildings shall not grant permits for any such building or structure, for any such purposes, until such permission is so obtained.

Recently Minneapolis had on its hands a suit as a result of withholding the license for a station to operate at a point which was considered as an obstruction to traffic and as increasing the fire hazards of the neighborhood.

The court deciding the question assumed that a city could constitutionally prohibit gasoline filling stations which affected traffic congestion and increased fire hazard. The supreme court decided in favor of the city.

The situation in New York State is such that any municipality can order the removal of any curb pump, such as has been employed in practically all cities in the state.

Recently one of the large cities in the northern part of the state started action to have all curb gasoline pumps removed, and was upheld by the Supreme Court in its effort. The result was that all such curb pumps were withdrawn from the curb line and brought back on to private property. In this case the contention was that the curb property belonged to the city and that the presence of curb pumps was an encroachment on city property. As the owners of these pumps paid no rental and had no permission to establish their pumps at points along the curb they were thereupon ordered to remove them.

Other cities in the state have regulations which prohibit the establishment of gasoline filling stations in proximity to buildings as well as within buildings.

Proper regulation of gasoline filling stations or in fact any stations where quantities of gasoline or other inflammable volatiles are employed are most essential to the safety of the city and rigid enforcement of them is justified.

PRIZES OFFERED FOR FIRE PICTURE TITLE

Film sponsored by International Association of Fire Engineers now in production—$1,000 in cash prizes offered in contest for title.

YOUR COOPERATION, PLEASE!

ON pages 88 and 89 of this issue are given the details of an important contest in which fire fighters everywhere—and fire fighters *only*—are invited to take part.

After reading the announcement yourself will you kindly have it posted on your bulletin board so that all the members of your department may have a chance at winning the $1000 in cash prizes?

The motion picture for which a title is wanted, is being sponsored by the International Association of Fire Engineers as the first step in an elaborate program laid out to promote the welfare of the fire fighter everywhere.

With its share of the film profits, which may run as high as $250,000, this organization will set out to elevate the fire fighting profession in the public eye, assume the leadership in all matters pertaining to fire protection, and do many other things that should win higher recognition and result beneficially for every man who is making the fight against fire his life's work.

This is a vast undertaking which requires the help of every fireman from the Chief down, in places large and small, if it is to go over in the big way the cause deserves.

We will tell you about this in more detail later. For the present, get all your boys busy on the picture title contest. The Metro-Goldwyn-Mayer Studios, producers of the picture, are putting up the prize money and we want you and every other member of your department to get a whack at it. The time is short—so go to it!

If you have any questions, address

I. H. CASE,
Chairman Publicity and Membership Committee
INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS,
225 W. 34th St.,
New York

Reading, Pa., Honors Dead Firemen

About two thousand people attended the memorial service held in the Rajah Theatre to honor the memory of the dead firemen of Reading, Pa., and in particular the one hundred and five firemen who died during the year.

Walter S. Frees, the chairman of the committee of arrangements told of how the memorial services were discontinued for the past five years and why the practice was again revived. The invocation was pronounced by the Rev. Frank W. Ruth of Bernville, chaplain of the county association. The boys' choir of St. Mary's Episcopal Church sang a number of hymns.

Clarence H. Beck, secretary of the committee and secretary-treasurer of the Firemen's Union then read the names of those who had passed away. The list commenced with the Rainbow company, the oldest company and ended with the Oakbrook Hose Company, the youngest company.

QUESTIONS AND ANSWERS

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

"False and True" Statements

To The Editor:

Enclosed you will find a list of 20 questions of the "False or True" type. I am submitting my answers to the questions. I will highly appreciate your trouble if you will check over and see whether I am right or not. If new questions were printed every month like these it would give a lot of valuable information to your readers. Sincerely yours, J. J. McG., Fire Dept., Wilmington, Del., Dec. 15, 1925.

The questions are as follows:

1. Fire apparatus should be driven at top speed in responding to fires.
2. No precaution is necessary where fire hose is laid across railroad tracks.
3. A small dent in a fire nozzle will not affect the stream therefrom.
4. Fire helmets should not be worn in summer as they are too hot.
5. Fire chiefs are better versed in fire matters than captains and lieutenants.
6. The book of Rules and Regulations should be studied by all firemen in spare time.
7. Quick action with sound judgment will prove helpful to fire officers.
8. A chemical line should not be laid at all fires.
9. A booster tank (water) does not put fire out the same way that a chemical tank does.
10. Fire apparatus equipped with rubber tires will not hurt fire hose by crossing it.
11. A strict officer both in quarters and on fire grounds is generally a good officer.
12. There should be no objection to small children playing inside quarters of a truck or engine company.
13. A fire chief on entering a company should joke and "cut up" with the firemen in quarters.
14. Smoking on the fire grounds by officers and men should not be objected to after hours.
15. A fire officer should shout out his orders as loudly as he can at fires at all times.
16. The fireman with most to say in quarters and at fires is generally the best fireman.
17. All fires are dangerous no matter how small.
18. A fire officer should look a fire over and note conditions of same before giving orders or going into action.
19. A fire should be extinguished regardless of the safety of officers or men.
20. Dropping a man off the apparatus to summon other apparatus at a fire discovered en route to another fire, rather than stopping the apparatus, and attempting to extinguish the fire or rescue life, is not always the best policy.

My answers to these questions are as follows: 1. False. 2. False. 3. False. 4. False. 5. True. 6. True. 7. True. 8. True. 9. True. 10. False. 11. True. 12. False. 13. False. 14. False. 15. False. 16. False. 17. True. 18. True. 19. False. 20. True.

Answer: The answers you have given to the questions are correct with the exception of the 9th. The booster tank (employing water) does put out a fire the same way that a chemical tank does. For years it was commonly believed that the gas created through the reaction of the sulphuric acid on the bicarbonate of soda was the extinguishing agent.

However, on careful tests and analysis of the subject it is now definitely determined that the discharge from soda and acid extinguishers is no more effective in putting out fires than plain water. In the first place it should be remembered that no appreciable amount of gas is discharged with the solution from a soda and acid extinguisher. When the reaction takes place in the extinguisher the gas rises to the top and provides a pressure which forces the solution out. It is true that there may be a certain amount of soda in the solution which is discharged on the fire but this soda has no effect until it is dissociated. It is a rare occurrence that the temperature of the fire is sufficiently high to instantly evaporate the water and dissociate the soda into gases which would act as extinguishers so that the soda itself does not add to the effectiveness of the solution in putting out the fire.

If gas were discharged with the stream, this gas, which would be compressed by the pressure within the cylinder or chamber of the extinguisher, upon leaving the nozzle would suddenly expand and shatter the stream entirely, completely breaking its range. In other words there would be a sputtering stream instead of a steady stream as is commonly secured from chemical apparatus. Even if a small amount of carbon dioxide (gas which is created by the reaction within the extinguisher) reached the fire it is probable that this gas would have no appreciable effect for the draughts created by the fire would quickly wipe the carbon dioxide gas aside and the blanketing effect would be nullified.

Hence this question should be answered "false."

Your suggestion that similar questions to the ones you have submitted on the so-called "False and True" type be printed in each issue of FIRE ENGINEERING is an excellent one. It is very likely that your suggestion will be taken advantage of starting with an early issue of this journal.

Akron Captain Examination Questions

To the Editor:

I am sending you herewith a list of questions for Captains' Examination held November 30th. Will you kindly give me the correct answers to same.

Respectfully,
H. L. D.
Akron, Ohio.
December 5, 1925

1. How many pieces of fire apparatus constitute Engine Co.'s No. 1 and No. 5?
2. How high is the training tower at Engine House No. 5 (from the ground level to base of railing on the roof?)
3. (a) Who is in charge of the Fire Alarm Signal System of the Akron Fire Department? (b) Give the names of the Fire Wardens.
4. In case of an accident to a person or property by your piece of fire apparatus (assuming that you

were Captain) on the way to a fire, what would you do?

5. How often do the orders of Chief Mertz require the buildings in each running district to be inspected?

6. (a) What is fire? (b) What is an incendiary? (c) Who is a subordinate? (d) For what purpose is a fire deparment organized?

7. What are the chief differences between the duties of a Captain of an Engine Company and those of a Captain of a Truck Company?

8. How would you take a twenty-five foot ladder to a roof of a three-story building?

9. What vehicles are permitted to drive over a line of hose in time of fire?

10. How many fire hydrants are there on South Howard street from Market to South Main and West Bowery streets (inclusive?)

11. How many resuscitations have the local fire department effected since the firemen have been instructed in the Shaffer prone-pressure method?

(*Questions 12 to 20, with answers, continued in next issue.*)

Answer: A number of these questions (Nos. 1, 2, 3, 5, 10, 11, 17 and 20) pertain to local conditions which information on hand does not enable us to answer. One or two of the other questions also contain information which is of local interest only and therefore does not permit complete answers.

The answers herewith, however, are for the questions which pertain in general to the subject of fire fighting and fire protection.

Answer 4. In the case the apparatus was not damaged, the proper procedure would be to leave one man at the scene of the accident to take care of the injured person, to call ambulance and to secure details of the property damage and the extent of damage.

The apparatus with captain would thereupon continue on in answer to the alarm.

Immediately after reporting back to quarters a full report of the accident should be made through the proper channels to the head of the department.

In the case of the apparatus being put out of commission, a break-down signal should be immediately transmitted to fire alarm headquarters by captain so that the assignment may be covered by another truck.

Answer 6. (a) Fire is a principle of combustion as manifested in light, especially flame, and in heating, destroying and altering effects; fire in a broad sense may be termed the evidence of combustion, combustion being a chemical reaction between combustible materials and oxygen. Fire as commonly known is accompanied by the production of heat and luminous effects.

(b) An incendiary is a person who starts fire with one or more of several motives, such as to defraud insurance companies, revenge, malice. An incendiary may set fire to his own property or to property of neighbors.

(c) A subordinate, particularly in the fire department, is a man of lower rank. For instance, the assistant chief is a subordinate of the chief; the captain is a subordinate of the assistant chief, the fireman is a subordinate of the captain. The dictionary defines subordinate as one who holds a lower or inferior position.

(d) The fire department is organized for the purpose of protecting lives and property against fire.

Answer 7. The chief differences between the duties of a captain of an engine company and the captain of a truck company are such as are created by the differences in apparatus which they command. The captain of a truck company naturally would have the responsibility of placing ladders for the rescue of lives, assisting the engine companies in getting lines in operation, opening up buildings, use of life nets, use of life lines, and such other duties as their equipment particularly fits them.

The duties of an engine company captain would include the placement of lines as directed by a superior officer or if the captain is the officer of highest rank at the fire, the responsibility of placement of lines rests upon him; the captain also assists in such rescue work and other duties as judgment dictates.

It should be remembered that all captains in a fire department should be equally trained in various branches of the service. There is no such thing as a captain specializing in one line only for at fires it is necessary in order to secure team work to be fully posted in all operations of the department. That is why large fire department colleges train all of the officers in all lines of work; engine company captains are trained in truck duty as well as engine duty and vice versa.

Answer 8. The method of taking a 25-foot ladder to the roof of a three-story building is as follows: The ladder is placed on ground with top toward building. Men are sent to roof leaving two at street to work on ladder. The men on the roof who have taken with them a roof rope, lower the rope to the ground and one of the men on the ground takes the end of the rope and stopping at center of ladder measures off two arms lengths of rope. He then makes the rope fast to the ladder by placing two half hitches around each beam and a bow-line on the rope. This hitch is made one round above the center of the ladder and in making the hitch the man starts it by placing the rope through the ladder, over this wrung and around the left beam, bringing the end over the standing part of the rope. He then puts the end through the round and around the left beam again, bringing it through the loop, pulling tight and close to the round; he then brings it across and around the right beam under round and under the rope. He then takes another turn around the beam over the round and puts the end through the loop and pulls hitches tight and close to the round. He makes a bow-line, having it in the center between the round and the next one above. When this has been done he calls to the men on the roof to hoist. As the ladder is pulled up off the ground he grasps the butt and pulls the ladder out from the wall, turns ladder around so as to leave rope between wall and ladder, and brings butt into wall. The ladder is then hoisted to roof. As soon as the ladder is up so that the bow-line knot is in the hose roller which has been placed on the cornice, the men on the roof grasp the ladder and pull the top down on roof. Then turn it over on side and pull it in on roof. The ladder is then removed or used as desired.

The tools which are carried to the roof by the men going to the roof include the roof rope, the hose roller and axe.

Answer 9. In most departments the vehicles that are permitted to drive over the lines of hose include those city vehicles needed at the fire, private emergency wagons such as ambulances, gas emergency trucks, and U. S. mail trucks. These are the only trucks authorized to drive over hose lines.

Fires in Cedar Rapids, Ia., Increase—The number of fires in Cedar Rapids, Ia., have increased the past year.

New Chief for Oakfield, Wis.—W. E. Reynolds was elected chief of the fire department of Oakfield, Wis.

Chester, Pa., to Build New Fire Station—Ground has been reserved in a new home development in Chester, Pa., for the construction of a new fire station.

East Rockaway, N. Y., Purchases New Apparatus—Three new pieces of Mack fire apparatus were purchased by the village board of East Rockaway, L. I., N. Y.

Essentials in Handling Large Oil Fires

(*Continued from page* 78)

of paramount importance here, as in any other industry. Details of construction involve a special engineering study for each case. This study combines safe structural practice with knowledge gained through experience by the oil industry regarding the hazards incident to the commodities handled. Tank construction has been greatly improved in the last few years, but to show that the type of tank which has been in use during the last ten years has been a relatively good fire risk. I will give you some statistics from the survey of the American Petroleum Institute. In oil marketing stations, which are usually the only oil plants found in cities, it was found that out of a total of over 11,000 there have been less than two fires per year. This is equivalent to one fire every 5,860 years for each plant, or in other words there is one chance in about 6,000 of any one particular plant catching on fire during a year's time.

As for fire protection—it is difficult to outline definite suggestions for municipal fire departments' aid in fighting fires in oil plants. It is always a good idea for the fire department officials to occasionally visit each large plant, and have a talk with the superintendent who can assist in outlining a method of procedure and cooperation in case of various contingencies. Where there is a foam system, the fire department can sometimes help with the operation of the system. This is particularly true in cases of fires at night where there may be but few employees at the oil plant, and where the operator of the foam system can be considerably helped by efficient aides.

The Foam System of Protection

For the benefit of those unfamiliar with the foam system, it will perhaps be well to bring in here a brief description of the foam system of protection.

Experience has shown that when a fire resistant froth is floated on top of a burning oil surface the heat of the flames is cut off from the oil surface. As the oil surface cools, its vaporization is decreased so that the flames soon die down from lack of fuel to feed them.

To produce a proper froth for this purpose, two chemical solutions are mixed together in equal proportions. These solutions are stored separately, one in each tank. In order to prevent the foam from being broken down by mechanical agitation before it reaches the fire, it is desirable to bring the solutions together as near as possible to the oil surface where they are to be applied. In practice separate pipe lines are usually run to the oil tank protected by the foam system and the lines are siamized into a mixing chamber at the edge of the oil surface. Here the foam is produced and allowed to flow over the oil surface.

The solutions are supplied in proportions as nearly equal as possible by means of two pumps of the same size and operating at the same rate of speed.

Where a hose stream is desired two hose lines are used—one for each solution—and the solutions brought together in a short length of a larger sized hose siamized to the twin solution lines. A nozzle is used on the end of the short length of single hose, and the foam stream controlled as any other fire stream.

Fire Apparatus as Temporary Foam Pumpers

The fire department can sometimes provide pumping facilities in case the foam pumps are, for some unforeseen reason, disabled at the time of the fire, or in case foam solutions are available where there is no foam system. Chiefs Short and Scott have both had occasion to call upon their departments to function in this way. (See Fig. 12.)

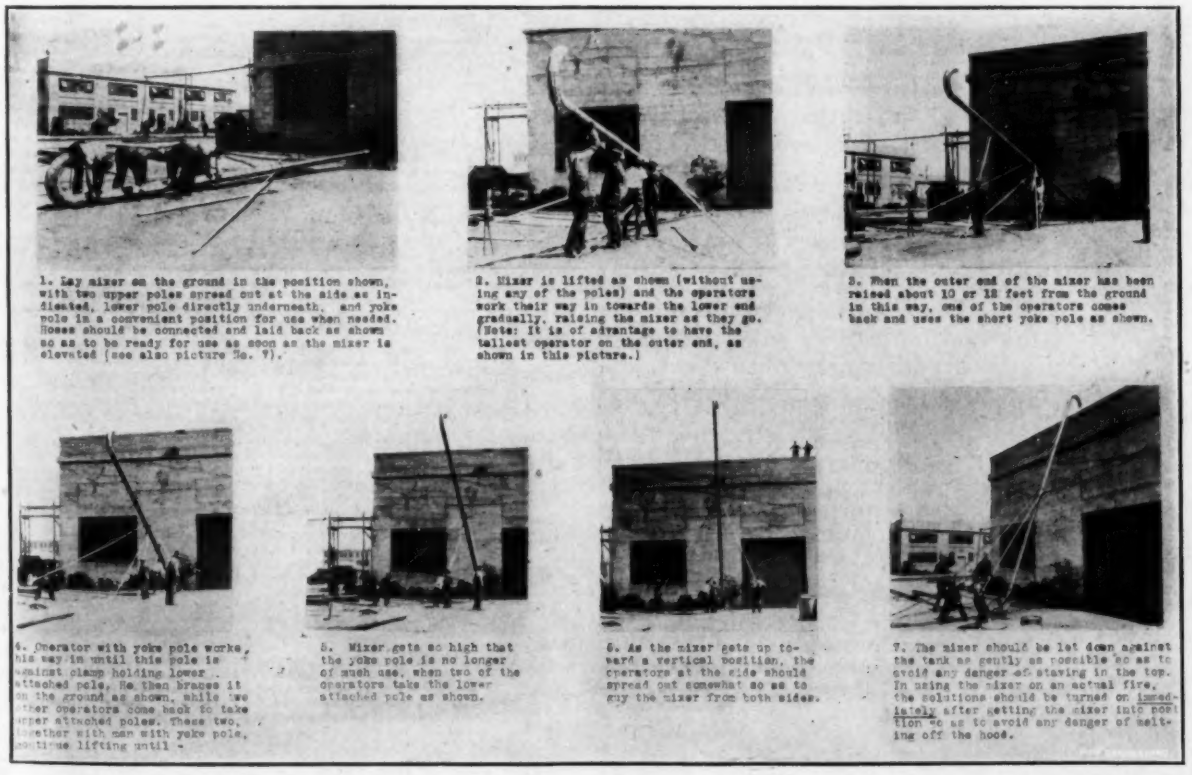
When the fire department pumps foam solution with its regular pumpers, best results are obtained if positive displacement pumpers (rotary or plunger) are used. These should be preferably of the same type and rating, and should be run at the same rate of speed. It is best to take suction from the top manholes of the solution storage tanks, if sufficient suction hose is available, otherwise the oil companies can probably make some kind of pipe connections for getting solutions to the pumpers.

The fire department can furnish hose lines to replace pipe lines in case the foam solution lines should become broken or otherwise be out of commission, or in case an extension is desirable.

How to Use Foam Hose Streams

Foam hose streams are often used to supplement regular foam mixing boxes on tanks, or for extinguishing pools of oil on the ground. A foam hose stream is used effectively in a different manner than a water stream. The foam should not be directed into the oil, nor should it be sprayed around over the oil sur-

(*Continued on page* 94)



1. Lay mixer on the ground in the position shown, with two upper poles spread out at the side as indicated, lower pole directly underneath, and yoke pole in a convenient position for use when needed. Hoses should be connected and laid back as shown so as to be ready for use as soon as the mixer is elevated (see also picture No. 7).

2. Mixer is lifted as shown (without using any of the poles) and the operators work their way in towards the lower end gradually, raising the mixer as they go. (Note: It is of advantage to have the tallest operator on the outer end, as shown in this picture.)

3. When the outer end of the mixer has been raised about 10 or 12 feet from the ground in this way, one of the operators comes back and uses the short yoke pole as shown.

4. Operator with yoke pole works his way in until this pole is against clamp holding lower attached pole, He then brings it on the ground as shown, while two other operators come back to take upper attached poles. These two, together with man with yoke pole, continue lifting until -

5. Mixer gets so high that the yoke pole is no longer of much use, when two of the operators take the lower attached pole as shown.

6. As the mixer gets up toward a vertical position, the operators at the side should spread out somewhat so as to guy the mixer from both sides.

7. The mixer should be let down against the tank as gently as possible so as to avoid any danger of staving in the top. In using the mixer on an actual fire, the solutions should be turned on immediately after getting the mixer into position so as to avoid any danger of melting off the hood.

Fig. 13. Various Operations in the Use of a Portable Fire Foam Mixer, for Use in Fighting Fire in Tank Not Equipped with Mixing Box or When the Box Is Out of Commission.

A CONTEST! Open Only to

$1,000 in

For the Best Suggestion for the
$500 Cash for the First Prize —Ten

First Read this story

Second:—Think of a good title which can best suggest this story and the photoplay into which it is being made.

Third:—Send it in to the Contest Department of Metro-Goldwyn-Mayer, Culver City, California.

Fourth:—The winner of the First Prize will receive $500 in cash. The authors of the next ten best titles will each receive $50 in cash.

Fifth:—The contestants may use the printed form on the other side or send in their suggestions on a separate piece of paper.

Sixth:—Contestants are privileged to send in as many titles as they wish, but each must be submitted on a separate sheet.

Seventh:—The judges of this Title Contest will be Jay Stevens, California State Fire Marshal and Louis B. Mayer, head of the Metro-Goldwyn-Mayer studios.

Eighth:—The Title Contest will close February 20, 1926.

This untitled story, written by Kate Coberly, has Charles Ray in the leading male role and is being produced under the leadership of Hunt Stromberg, associate Metro-Goldwyn-Mayer executive, with Fire Chief Ralph Scott of Los Angeles acting as technical advisor.

(A SYNOPSIS)

In the city of the story, fire and water are waging their age-old fight. This conflict centers around the household of Fire Captain O'Neill, comprised of his wife, his daughter, and three sons. Captain O'Neill's three sons are also firemen—soldiers with their father in the great army of peace.

Through Mrs. O'Neill, an eternal mother type, is told the tragic story of women who send their men daily to battle with Fire, the red wolf that destroys man and his works.

Jean, daughter of the household, and Joe, the youngest son, are the point of contact between the fireman's family and that of Donohue, owner of the city's water system, newspaper, and other vast interests. The two sons, Joe O'Neill and Dr. "Tommy" Donohue, were "buddies" in France; Jean and the young doctor love each other.

The plot hinges on the manipulation of the water supply, which under Donohue's franchise, is to be kept in a reservoir available in sufficient quantities for fire-fighting. Often, in the interests of lumber concessions which he owns, the millionaire allows the water supply in the reservoir to dwindle; sometimes almost dry. On one of these "dry" occasions a devastating fire breaks out in the city, the water pressure drops, and one of Captain O'Neill's sons loses his life. Following the blaze an investigation is started by the fire captain.

This part of the story strikingly exposes one of the grave problems in fire-fighting—the methods or "dirty work" of certain private water interests. Joe, the youngest son, is sent into the hills to investigate the reservoir, and at the same time Captain O'Neill discovers that gasoline tanks, maintained on Donohue's waterfront lumber yards are kept above ground in defiance of fire regulations. Weston, superintendent of the yards, is ordered by Captain O'Neill to place them below at once.

Donohue, learning of the investigation of the reservoir, and fearing it may lose him his charter to supply water, plots with Weston, his henchman, to "frame" the fire captain. When Joe returns from the hills Weston confronts him with a cancelled check and a threat that, if he makes his report, his father will be accused of accepting bribes to ignore the gasoline tanks at the yards. Joe, not knowing what to do, seeks his mother. But she tells her son to write his report!

Meantime a fire starts on the waterfront from the explosion of one of the gasoline tanks, and becomes a holocaust involving the city. Dr. Tommy Donohue, operating on an upper floor of the city's orthopedic hospital, is trapped by the flames and takes refuge on the roof with nurses and crippled children. O'Neill's second son is killed while fighting the fire.

James Donohue, responsible for the disaster, watches in agony as the flames sweep toward his doomed son, when Captain O'Neill, driving his grey team, and, seemingly, with the spectre of his dead son hovering over him, drives up a hill which automobile equipment cannot scale, and trains a hose stream on the roof of the hospital. The pathetic line of nurses and crippled children are brought to safety by the firemen, but the doctor, last to leave, is trapped by a curtain of flame. Joe O'Neill, remaining son of the fire captain, dashes through flame and staggers out with his "buddy." Joe is badly burned.

The climax of the story occurs the following day when, before the city council, Mrs. O'Neill makes her injured son's report for him, in the presence of the millionaire whose son's life has been given back to him by the brother of the man his treachery has killed. A smashing dramatic situation furnishes the solution of the plot.

Your Title May Win

This space is donated to the International Association

Members of Fire Departments

cash Prizes

Title of a Big Motion Picture
Prizes of $50 each for the runners-up

Every Fire-Fighter from the Chief down, paid and volunteer, is eligible to compete in this contest

Your help is wanted in picking the title because the story concerns itself with the life of a fireman. The picture, while providing good entertainment, will show what great sacrifice the fire-fighter is called upon to make in the line of duty, and thus should result in much benefit to firemen everywhere.

Further, the International Association of Fire Engineers, the great organization behind the picture, plans to use its share of the profits to carry on extensive fire prevention work and promote in a big way the welfare of the fire protection profession generally.

The film will be shown at the leading theatres throughout the country. Watch for it—*boost* it! The more you help the more it will help you. Further particulars will be sent you later.

The motion picture is now being produced by METRO-GOLDWYN-MAYER under the auspices of the INTERNATIONAL ASSOCIATION of FIRE ENGINEERS. All it needs is a title. What's your suggestion? Send it in NOW!

Contest Department,
Metro-Goldwyn-Mayer Studios
Culver City, California

I suggest.....

.....

as the title of the motion picture now being produced by Metro-Goldwyn-Mayer under the auspices of the International Association of Fire Engineers.

Name.....

Position.....

Address.....

City.....

—Let's Have It!

of Fire Engineers by the Publishers of FIRE ENGINEERING

FIRE DEPARTMENT ACTIVITIES

Niagara Falls, Ont., Chief Retained—Albert H. Baldry, was re-elected chief of the fire department at Niagara Falls, Ont.

New Apparatus for Huntington, W. Va.—Five pieces of Seagrave apparatus costing $56,000 was purchased by Huntington, W. Va.

Montgomery, Ala., Completely Motorized—Upon the arrival of the second piece of American-LaFrance apparatus, the fire department of Montgomery, Ala., was completely motorized.

Burlington, N. J., Chief Gets Action Soon—Forty-five minutes after being sworn in as chief of the fire department of Burlington, N. J., Richard Horn was called to his first fire.

Bill Introduced for Massachusetts Firemen—A bill was introduced by the Federation of State, City and Town Employees to prevent the members of the fire department from working for hire during their vacation and time-off periods.

May Increase Cambridge, Mass., Firemen's Salary—The mayor of Cambridge, Mass., recommended that the salary of the firemen be increased twenty-five cents a day beginning February 1.

New Chief for Lawrence, Mass.—Deputy Chief Michael McPhee has been appointed chief of the fire department of Lawrence, Mass., to succeed Chief Francis J. Morris who has been retired on a pension.

Pittsburgh, Pa., Apparatus Crashes into Store—While responding to a fire in Pittsburgh, Pa., the apparatus got out of control and crashed into a confectionary store. The firemen escaped injury by leaping before the crash occurred.

Youngsville, Pa., Relic Assigned to Scrap Heap—The first fire apparatus which Youngsville, Pa., purchased in 1901 from Niles, O., has been consigned to the scrap heap in order to utilize the space which it occupied in the fire station.

Toledo, O., May Increase Salary of Firemen—The city officials of Toledo, Ohio favor the granting of a 7½% increase in the salary of the firemen. This will mean an increase in the budget which will be taken care of by several funds.

Washington, Ia., Firemen Have Banquet—The custom of the annual fire department banquet has been revived in Washington, Ia. A large number were in attendance at the one held early in January.

Fort Dodge, Ia., Fire Losses Decrease—The fire losses in Fort Dodge, Ia., for the past year have decreased to $86,714. In 1921 the loss was $218,141. The department answered 202 alarms. The largest individual loss was $21,000.

Protest Made Against Lynn, Mass., Drill Tower—The building trades council of Lynn, Mass., filed a protest against the plan of Mayor Ralph S. Bauer for the firemen to erect a drill tower in the rear of the Broad street fire station with material and lumber furnished by the city.

Gloucester, Mass., Firemen Elect Officers—At a meeting of the firemen's relief association of Gloucester, Mass., Chief Homer R. Marchant was elected president; John A. Anderson, vice president; Richard H. Hilton, secretary and Howard H. Oakes, treasurer.

Medal Presented South Hadley, Mass., Chief—The Society for the Prevention of Cruelty to Animals presented a bronze medal to Chief Erry Burnett of South Hadley, Mass,, for his action in rescuing a dog from drowning after it had broken through the ice in a pond.

Oskaloosa, Ia., Firemen Entertain City Council—The city council of Oskaloosa, Ia., were entertained by the firemen at a banquet on New Year's eve. The department has been reorganized and is operating on the platoon system. Two paid men have been added.

Sioux City, Ia., Issues Fire Facts—The following facts in reference to the fire department of Sioux City, Ia., has been made public. During the past year there were 1,001 fires with a property loss of $242,670. More than half of the fires occurred in residences through rubbish or chimney fires.

Emmetsburg, Ia., Insures Firemen—The city of Emmetsburg, Ia., has taken out a blanket insurance policy on all its firemen to cover injuries and loss of life. Consideration is being given to insuring their clothes on the theory that a volunteer who gives his services free to the city should not be asked to pay for injury to self and property.

Everett, Mass., Firemen Elect Officers—At a meeting of the firemen's relief association of Everett, Mass., the following were elected officers: Chief Philip Ham, president; Charles S. Hill, vice president; Deputy Chief George E. Hatch, treasurer; Leslie Kendall, secretary; Capt. William Craig, Edward Gerety and Edward Evans, trustees for one year.

Gary, Ind., Has Heavy Fire Loss—The annual report of the fire department of Gary, Ind., shows that the city has the heaviest fire loss in its twenty years of existence. The department made a total of 668 runs. In his recommendations, the chief asked for the establishment of a new fire station and equipment.

Gadsden, Ala., Firemen Get Salary Increase—The salary of the firemen of Gadsden, Ala., has been increased so that the men who have been in the department for six months received a five dollars a month increase, ten dollars for those in twelve months and fifteen dollars for those in eighteen months or more. This will bring the monthly salary from $110 to $125.

Des Moines, Ia., Drafts Cleaning Ordinance—An ordinance has been drafted in Des Moines, Ia., which will change the dry-cleaning industry so as to require that the building housing the industry must be constructed of stone, brick or concrete and must have fifteen feet space on each side of the building. In addition, it must face a street in front and have an alley in the rear.

Indianapolis Firemen Have Spelling "Bee"—In order to acquaint the members of the fire prevention bureau of Indianapolis, Ind., with the words that they encounter in their every day work, the department held a spelling "bee" recently. Members of the department were assigned to prepare papers on the history of some of the city's landmarks and made inspections to ascertain their compliance to fire prevention rules.

Fire Alarm Notes

Siren Tested in Casselton, N. D.—A new fire siren was tested in Casselton, N. D.

Beverly, N. J., Purchased Siren—A siren has been purchased by Beverly, N. J., hose company No. 2.

Margate, N. J., Needs Fire Alarm System—A New fire alarm system is needed in Margate, N. J.

Niles, O., Fire Alarm System Delayed—The city officials of Niles, Ohio, feel that consideration for the installation of a fire alarm system in the city must be postponed until after April.

Fire Alarm of West New York, N. J., Completed—The new fire alarm system of West New York, N. J., has been completed. Until the system is completely hooked up, alarms may be sent in either from the new or old fire alarm boxes.

New Siren for Verona, Pa.—Due to the closing down of the power plant of the Verona, Pa., shops of the Pennsylvania Railroad, the city had to make other arrangements for a fire alarm system and an electric fire alarm siren may be installed.

Runs One-Half Mile to Send Fire Alarm—A resident of McClure, Pa., when she discovered her house was on fire, seized her baby and ran one-half mile to the village for help. When she returned the house was a mass of flames—only a chair and a bucket was saved.

Car Turns In Fire Alarm—A car which skidded in Davenport, Ia., crashed up against a pole on which a fire alarm box was mounted and set off the mechanism which turned in an alarm. Practically every piece of apparatus in the city responded, but all that they found was the damaged car and pole.

Fire-Detecting Device in Carnegie Museum—A photo electric cell was one of the many attractive exhibits of recent inventions at the Carnegie Museum, Pittsburgh, Pa. The cell which is very sensitive, to light, will cause an alarm to sound if a thin wisp of smoke passes between it and the light.

Ft. Dodge, Ia., Fire Alarm System Completed—The new fire alarm system of Fort Dodge, Ia., has been placed in service. The system has been installed under the supervision of Fred Harrington of the Harrington-Seaberg Corporation. Before taking over the system, Chief Callahan warned the people against the temptation to send a false alarm and the penalty which would follow.

THEY STOOD THE "GAFF"

AT GALVESTON

THEY WILL DO THE SAME FOR YOU

Pumps ran continuously for 24 hours

BOARD OF COMMISSIONERS
City of Galveston

J. E. PEARCE, Mayor, President
ANNE C. KELLEY, City Secretary
N. L. McCARTHY, Com. Finance & Revenue
ALVIN T. LANGE, Com. Water Works & Sewerage
FOLTS DOWLING, Com. Streets & Public Property
R. F. WILLIAMSON, Com. Police & Fire

OFFICE OF
R. H. WESTERVELAGE
CHIEF FIRE DEPARTMENT

CITY HALL AND AUDITORIUM

Galveston, Texas, Jan. 8, 1926

The Seagrave Corporation,
Columbus, Ohio.

Gentlemen:-

It is a pleasure to advise you of the result of the 24 hour test which was recently conducted with the two Seagrave Pumping Engines purchased from your company.

After having used several makes of fire apparatus, we purchased two Seagrave Pumping Engines and before accepting them we decided to run an endurance test of 24 continuous hours in order to satisfy ourselves that these machines were capable of performing any job of pumping that we might need of them.

These two Seagrave Centrifugal Pumps were run for 24 hours and both averaging a discharge of 625 gallons per minute for the entire period. The motor speed during this test was approximately 1125 R.P.M. They were operated from draft and absolutely no trouble of any nature was experienced during the test.

Previous to the 24 hour endurance test both engines were subjected to a high lift test and pumped well over their guaranteed capacity when operating from a lift of 10 feet. These preliminary tests, together with the 24 hour test, made a run of approximately 30 continuous hours without a single shut down.

Their performance was more than satisfactory and we believe they could go through the same test at any future time without any mechanical trouble whatever.

Yours very truly,

R. P. Williamson
Commissioner, Police & Fire.

RPW/P

Motors ran continuously for 30 hours

The letter above, from Commissioner Williamson, of Galveston, explains the nature of the twenty-four hour endurance test recently run on two 600 Gallon Seagrave Pumping Engines.

THE FIGURES BELOW GIVE THE HIGH-LIGHTS OF THIS DEPENDABLE SEAGRAVE PERFORMANCE

The Motors fired approximately 4,860,000 times.
Each Piston traveled more than 300 miles.
The Crank-Shafts turned approximately 1,620,000 revolutions.
A Six-inch pipe 232 miles long would be required to hold the water pumped by these two engines.
The water pumped during this test would fill a line of 2½-inch fire hose reaching from the Great Lakes to the Gulf.

LET YOUR NEXT ONE BE A SEAGRAVE

THE SEAGRAVE CORPORATION

COLUMBUS, OHIO

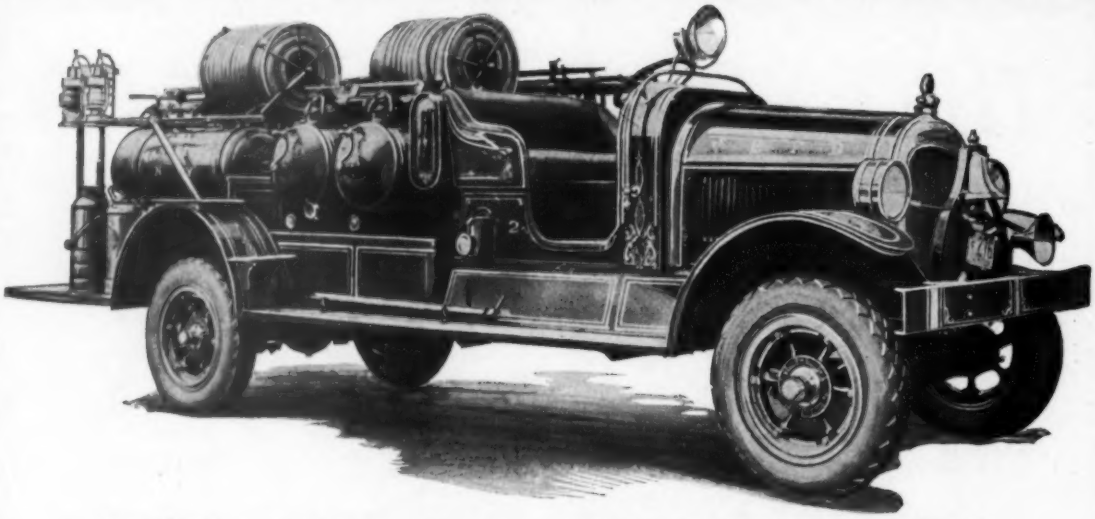
BOSTON
NEW HAVEN
PHILADELPHIA

PITTSBURGH

CHICAGO
KANSAS CITY
DALLAS

BIRMINGHAM

SEATTLE
SAN FRANCISCO
LOS ANGELES



Fire fighting without a water supply is effectively accomplished with this "DELUGE" 4-Tank Chemical Truck. Superior features of "DELUGE" Tank construction have simplified and greatly increased the efficiency of chemical fire fighting.

THE PROSPECT FIRE ENGINE CO.,
Prospect, Ohio
"FORTIFY FOR FIRE FIGHTING"

BUCKEYE WHISTLES

Do they hear *You* Coming?

Buckeye Whistles will clear the way for your apparatus and your officers' cars, many blocks ahead. You can rely upon them, chief, because they are extremely effective and always dependable.

They are made to last a lifetime and are being sold for Fire Department Service exclusively.

A 60-day trial will convince you why almost 400 Fire Chiefs in the United States alone, have recognized in

BUCKEYE WHISTLES

A Warning Signal that Warns

BUCKEYE IRON & BRASS WORKS ~ DAYTON, OHIO

Fire Department
LADDERS

LADDERS for use in saving life and property must be dependable. We offer Reliability and Safety in our Ladders which is the result of years of experience and study. Carefully selected lumber and scientific construction are essential in making good Ladders.

Ladders rendered unsafe from service and age should be replaced.

We also manufacture Cellar Pipes, Door Openers, Tin Roof Cutters, Play Pipes, etc.

When interested, write us.

COMBINATION LADDER CO., Inc.
381 Fountain Street Providence, R. I.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

A New Motorcycle Pumping Engine

Of particular interest to small departments is a new motorcycle pumping engine which has just been put out by the Northern Pump Company, well known manufacturers of the Northern fire apparatus pumps, of Minneapolis, Minn.

The machine which is made in two different styles is remarkable for its comptctness and its capability.

Reference to the illustrations herewith will give a fair idea of the arrangement of the apparatus and the general appearance of the machine.

Fig. 1 shows the heavier unit built on a side car motorcycle. It carries a model 364 pumping engine, a Northern portable

Fig. 2.

pumper which was originally designed for the Minnesota State Forestry Department as a heavy duty Forest Fire Engine.

Due to its high efficiency, compactness and light weight it has been adapted to a great many other uses. It is capable of delivering 75 gallons of water per minute at high pressure and weighs only 500 pounds including the engine. It will draught water up to 25 feet without preliminary priming.

As mounted on the side car motorcycle it is equipped with two lengths of suction, one containing a strainer and a reel carrying 500 feet of 2-inch linen hose.

The whole arrangement is exceptionally accessible. The starting crank is conveniently located at the front of the machine while the hose can be run off in almost any direction.

The upper part of Fig. 1 shows the fire apparatus end of the motorcycle while the lower photograph is of the completed machine.

For small towns, villages, and rural service as well as for forestry service this machine is the possessor of many merits. It can be driven over any kind of ground, and due to its comparatively light weight it can reach points which would be impossible to attain with heavier apparatus.

As a matter of fact it is built for getting at fires in comparatively inaccessible points, and for rendering a real fire protection service to small communities.

The lighter type of side car motorcycle pumping engine is shown in Fig. 2. This machine is, of course, much lighter than the one shown in Fig. 1 but is limited in its capabilities.

Small Hose in Volunteer Departments

The question of using 1½-inch hose for residence and other small fires, particularly in volunteer fire departments, is one which has brought forth considerable discussion and there seems to be no uniformity of opinion in the matter.

Insurance engineers have always contended that the larger diameter hose, particularly 3-inch, is most desirable for general fire department use.

This is correct in the case of larger cities where great quantities of water must be employed in fires which gain headway and where 2½-inch hose would create too much friction loss to do effective work in many cases.

The tendency has been with insurance engineers to recommend both 3-inch and 2½-inch hose, some of each to be carried on every truck.

But 1½-inch has been given little attention. There are cases where 1½-inch hose is more useful and more advisable for employment than the larger sizes.

Before entering the subject of various sizes of hose it is of interest to fire department officials to know that 1½-inch hose has a friction loss of 12 times that of 2½-inch.

But frequently it is not a case where friction loss is vital and in such instances 1½-inch hose may prove more efficient and productive of results than 2½-inch or even 3-inch.

Fire departments in this country at the present time are responding to alarms so quickly with motor apparatus that in many cases over 80% of all fires are held with chemical lines—lines which may be only 1¼-inch in diameter—employing ½ or ⅝-inch tips.

Many companies respond to fires with four men or less and with a chemical line working on the inside with one man handling the stream the balance of the crew can handle the 1½-inch water line with ease as compared to handling a 2½-inch hose line.

Most fires occur in dwellings and the loss from water in many cases exceeds that of fire on account of the use of 2½-inch hose with 1⅜ or 1¼-inch tips. It is conceded that to get the best results from its use a quick alarm is necessary whether it is over the fire alarm system, 'phone or otherwise.

Many fire departments first used 1½-inch hose for wetting down fires, or, as many in the service call it, chasing sparks, but it was soon evident with quick response that 1½-inch hose would handle the entire job.

Chief Howard L. Stanton has given 1½-inch hose considerable service in the Norwich, Connecticut Fire Department and while he does not advocate all lines of hose laid at a fire to be of 1½-inch size, still where three companies respond on a first alarm go into operation one line is 1½-inch size with the expectation that it will handle any interior fire following the chemical line.

Chiefs of smaller departments have had trouble in getting to work with a crew of three or four men, and 2½-inch hose to

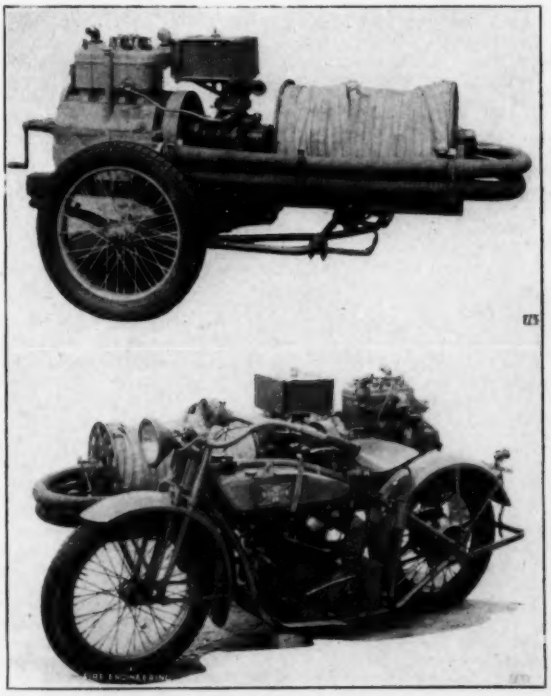


Fig. 1.

handle, but with 1½-inch hose for inside fires and dwellings, attic, basement and roof fires, it is far superior than trying to handle larger hose.

The 1½-inch hose can be moved easily from one room to another by volunteer firemen who are not fully familiar with the handling of heavier lines indoors.

In residential sections with wide lawns it is most valuable and can be taken to the roof of a building with ease as compared with 2½-inch line with water flowing.

Departments responding to telephone or oral alarms where only one company responds and which is dependent on hydrant streams where the pressure is inadequate, find that a 2½-inch line from the hydrant reduced to 1½-inch with 1-inch nozzle tip is more efficient than the larger hose with 1⅛-inch tip.

Chief Stanton has one company that carries only 1½-inch hose for water lines in addition to one 30-gallon tank and two hand extinguishers. Seventy-five per cent of all fires that are covered by this company are done so without aid from other companies responding. All apparatus in his department carries 1½-inch hose, even pumping engines, and all pumping engines have a 1½-inch outlet as well as being equipped with reducers for 1½-inch line work.

There is no question but what a considerable saving of water damage at dwelling fires can be affected by the use of 1½-inch hose with ½-tip. It is frequently not the volume of water that is required to handle most fires that counts, but rather the getting of the water in the right place and getting it there in quick time.

As to the layout of 1½-inch lines, some fire departments lay from the nozzle tip of 2½-inch line; others from a Y and many from an adapter or reducer from hydrant or pump.

Experience seems to show that a nozzle tip not larger than 5/8-inch and preferably ½-inch is best for use on 1½-inch hose.

Frequently a 2½-inch line may be laid and with a Y connection two separate 1½-inch lines stretched. In this way water can be put on two remote points at the same time and effective work done. This is particularly so in wetting down in cock lofts where the fire is fast spreading.

Essentials in Handling Large Oil Fires

(*Continued from page* 87)

face. Best results are obtained if the stream is impinged against some vertical object, and the foam allowed to float quietly over an oil surface. In extinguishing a tank fire with a foam hose stream, if possible, direct the stream across the flames to the other side of the tank shell, attempting to hit the inside of the tank shell above the oil surface, thus allowing the foam to flow on to the oil surface where it will spread itself across the fire. I have seen instances where the oil surface was almost covered with foam and the fire practically out, when careless handling of a foam stream swept the foam off the surface, and allowed the fire again to flash over a large part of the oil area.

In directing a foam hose stream on a pool of oil on the ground, the same method should be followed as in covering the oil surface in a tank with foam. Where there is no wall or other object alongside the pool against which to direct the stream, it is best to hit the ground at the edge of the fire. The foam which is thus formed on the ground is pushed by the stream onto the fire.

When it is desired to apply foam to a tank not equipped with a mixing box, or on which the box has perhaps been put out of commission by the collapse of the roof or some other cause, we have found a portable mixer, as shown in Fig. 13, to be very useful. The tube is made of a light strong alloy so that it can be easily carried to the tank and up-ended on the rockers provided at the bottom by a few men.

Fig. 14 shows a test fire in a 30' tank in which various types of mixers, including one of these portable types (indicating), are being tried out. On this matter of foam protection, our Company has done a large amount of experimental work to determine the proper rates and methods of application to tanks of various sizes; the most effective formula for the two chemical solutions, etc.

So much for the use of foam in fighting oil fires. Water should never be used on the same fire with foam because the foam is broken down by the water. The effectiveness of foam is greatly decreased when a little water is sprinkled on it. The shell of a tank to which foam is being applied, can, however, be cooled with water, and a tank thus cooled can be extinguished with less foam and in shorter time than where the shell is not cooled. This is particularly true with high vapor pressure oils, such as gasoline. The drainage of water must be watched very carefully around an oil fire to prevent spread of fire by oil floating on top of water.

These are some of the more important special features connected with the work of fighting oil fires. I will not take time to discuss any more, for it is likely that you will have some questions to ask and I will welcome a general discussion of this subject for the remainder of the time allotted me. To sum up briefly the message that I have tried to bring: During the past few years we have emerged from uncertainty to quite definite knowledge of what is required for safe oil storage construction.

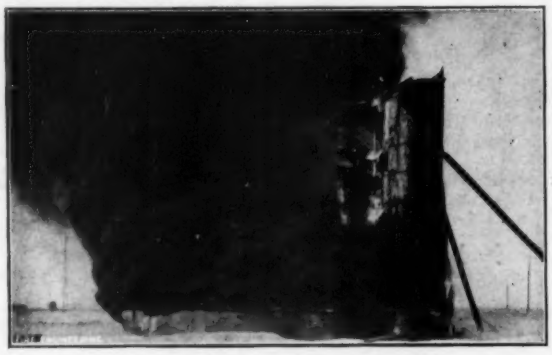


Fig. 14. Test of Fire in 30-foot Tank. Various Types of Mixers Are Being Tried Out, Including a Portable One, the Yoke Poles of Which Can Be Seen at Right of Picture.

We have learned that a properly constructed gas-tight steel roof tank, containing refined oils, has an excellent fire record, and is relatively a good risk.

As for fire fighting, we have, through extensive experiments and actual experience at fires, learned about what is required to make most effective use of both foam and water. I have tried to point out how the local fire departments may be of great assistance to the fire fighting organizations of the different oil companies when fires occur.

In closing I wish to say (and I am sure I speak for the fire protection engineers of the other oil companies as well as for myself), that we invite the cooperation of the fire chiefs in an effort to keep down the fire loss record. We will be glad to work with them at any time on such of their problems where our specialized knowledge can help.

Fire Square Club's Anniversary Dinner

The fifth anniversary dinner of the Fire Square Club at the Hotel Astor, New York City, on Tuesday evening, January 26th, will be a testimonial to Battalion Chief Albert Reid of the New York City Fire Department, and to Dr. Pierron W. Bergen, of Astoria, president and vice president respectively, since the club was organized five years ago.

The toastmaster will be Mrs. Mae Gooderson, wife of Deputy Chief Fred W. Gooderson. The gavel which Mrs. Gooderson will use in presiding, was cut from the beam which once supported the original Liberty Bell in Philadelphia. It is the gift of the Lambskin Club of Philadelphia.

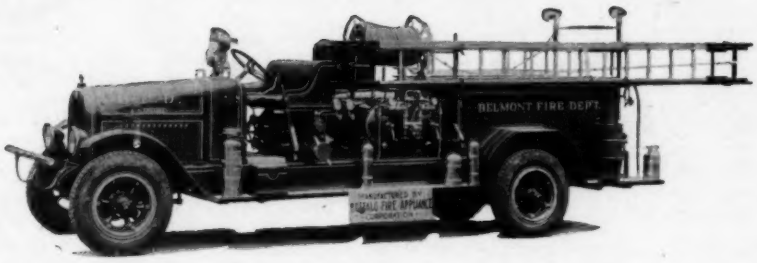
The speakers will include Robert Judson Kenworthy, Justice Arthur S. Tompkins and William A. Rowan. Fire Chief John Kenlon and other department officials have accepted invitations. The chairman of the dinner committee is Capt. Leon Howard of Engine Company No. 205 on Pierrepont street, Brooklyn Borough, New York City.

Battalion Chief A. Reid, N. Y., Pres. Fire Square Club

New Chief for Lawrence, Mass.—Deputy Chief Michael McPhee has been appointed chief of the fire department to succeed Chief Francis J. Morris who was retired after thirty-five years service, the last eight of which he served as chief.

BUFFALO

One of the strongest proofs of the real merit of Buffalo apparatus is the fact that chiefs are constantly of their own accord writing us glowing letters of praise of their Buffalo apparatus in actual service.



Every piece of Buffalo apparatus must be right before it leaves the plant —and every piece is fully guaranteed. You can't go wrong with Buffalo apparatus.

"Built to *Your* Order" Apparatus

is Making Good Wherever Placed in Service

because every piece of apparatus is designed by our experienced fire apparatus engineers in conjunction with the local fire officials to meet the specific requirement of the particular department or municipality making the purchase—and only the highest grade materials and workmanship go into the construction.

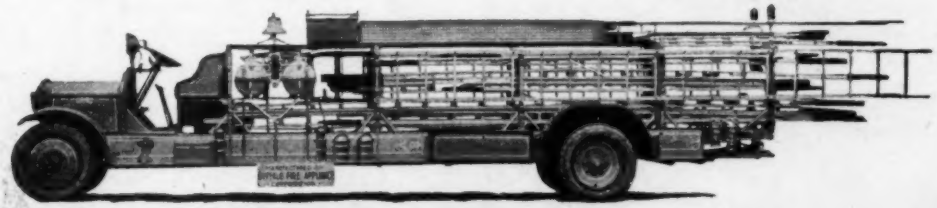
Every city, town or community selecting Buffalo apparatus is therefore certain to get dependable apparatus of just the type and size that will most effectively meet their own fire protection requirements.

Moreover, Buffalo Apparatus is economical. Our method of doing business and our large modern plant enable us to provide quality apparatus at comparatively low cost. This makes possible the immediate purchase of new apparatus with limited funds, or saves money that can be used to purchase other needed equipment or supplies.

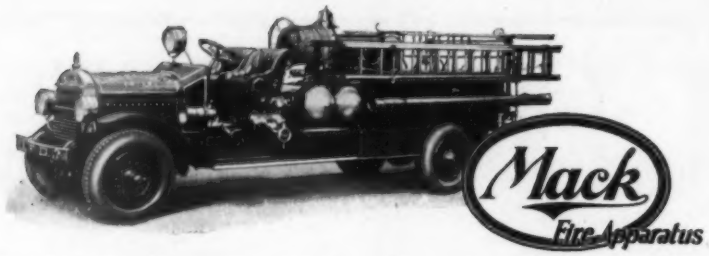
May We Tell You More About Buffalo Apparatus and the Buffalo Plan?

BUFFALO FIRE APPLIANCE CORP.

General Office and Factory **44 Central Ave., Buffalo, N. Y.**



BUFFALO



A third Mack for Lakewood, N. J.

In fire fighting equipment, Lakewood expresses the preference for Mack Fire Apparatus that New York City has shown, where there are over one hundred and fifty pieces of Mack apparatus in active service.

Lakewood's fire department now has three Macks—a Mack AC Hook and Ladder Truck—a Mack AC Combination Chemical and Hose Wagon—and now this new Type AB-3A Triple Combination Pumping Engine, Chemical and Hose Car, which has just been placed in service.

The Mack line includes highly specialized equipment to meet the needs of the largest fire departments as well as carefully designed combination units for small towns and rural communities that must have maximum protection with a minimum investment in fire-fighting apparatus.

Catalogues illustrating and describing the full Mack line of Fire Apparatus and Municipal Service Equipment will be gladly furnished on request. Write for them today.

MACK TRUCKS, Inc.
INTERNATIONAL MOTOR COMPANY
25 Broadway New York City

Ninety-five direct MACK factory branches operate under the titles of: "MACK-INTERNATIONAL MOTOR TRUCK CORPORATION," "MACK MOTOR TRUCK COMPANY," and "MACK TRUCKS OF CANADA, LTD."

PERFORMANCE COUNTS

Shuredry Salvage Covers

COST LESS—
WEIGH LESS—
MORE EASILY HANDLED

Chief Boyd, of the Knoxville, Tenn., Fire Department, has used "Shuredry" Salvage Covers for eight years. He says: "They are *waterproof, not affected by the weather, easy to handle, and altogether the most satisfactory covers we have ever used.*"

They do not freeze in winter, nor become tacky in summer. They are not subject to spontaneous combustion, nor to cracking where folded. One man can carry four up a ladder at one time.

Made in standard sizes. Write our nearest plant for samples and prices.

FULTON BAG & COTTON MILLS
Manufacturers since 1870
Atlanta, New Orleans, Brooklyn, St. Louis, Dallas, Minneapolis

Removing Fireman overcome by smoke at a fire in New York.

Save Your Men from unnecessary punishment—

MAKE it safe and easy for the men to go right into the seat of the fire by providing them with "Dontfear" Respirators.

These respirators are light, and easily adjusted. They have renewable canisters; the canisters containing ingredients that neutralize all smoke fumes.

Face cushion is of pure para gum, and needs no inflating. Much lighter in weight than gas masks, and weigh no more than any sponge-type respirator.

Your men deserve the protection which the "Dontfear" Respirator affords; and your city will profit through the much more effective work the men will be able to perform.

The price of the "Dontfear" Respirator is $5.00 complete in metal container and with one extra cartridge. Extra cartridges $3.00 a carton of ten. Goggles, $1 extra.

Gibbs-Wahlert Mask Co.
386 Jay St., Opp. Fire H'q'trs.
Brooklyn, N. Y.

DONTFEAR
SMOKE AND FUME RESPIRATOR

TWENTY-FIVE ENGINE COMPANIES OPERATE AT CHICAGO FIRE

Blaze in Piano Warehouse Causes Heavy Damage—Crowds Overrun Police Lines for a Time—Burnings of the Week

A MULTIPLE alarm fire, causing heavy damage and badly damaging a five story building in the Loup District of Chicago, occurred on January 6. The blaze originated in the basement of the Story & Clark Piano Company's building, on South Wabash Avenue, at about 12:30 p. m. from an unknown cause and swept up the elevator shaft, involving practically all floors by the time the first alarm companies arrived. The building, built 55 years ago, stands in the midst of "Piano Row," and for a time it was feared that the fire would communicate with other establishments. As the flames increased more than 100 guests in a tea .room on the ground floor fled to the street.

On the arrival of Chief A. Seyferlich, seeing the threatening condition of the blaze, he summoned 25 Seagrave and Ahrens-Fox pumpers, with about 200 men to combat the fire. There were plenty of 3 1-2 and 4 1-2 inch fire hydrants available, spaced 150 feet apart, with a presure of 15 pounds. There were 16 engine streams thrown, and eight engines siamesed into two

Chicago Firemen Fighting Blaze in Piano Factory. Illustration Would Indicate Lack of Police Cooperation in Establishing Fire Lines.

water towers and deck pipes. Hose used was of 2 1-2, 3 and 3 1-2 inch sizes.

At the beginning of the fire the firemen were much hampered by huge crowds which overran the police lines. The fire lines were quickly reestablished, and the crowds driven back.

The fire burned three hours and the fire department confined it to the building of origin, with a loss on the building, valued at $75,000, of $25,000, and on the contents, valued at $300,000 and consisting of pianos, musical instruments, stoves, etc., of $100,000.

Woodland, Wash., Council Entertained by Firemen—The city council of Woodland, Wash., were the guests of the firemen at their recent dinner. An excellent spirit of cooperation appeared to be the result.

Kansas City, Mo., Starts Year with False Alarm—Odd as it may appear, the old year in Kansas City, Mo., was rounded out by the fire department responding to a false alarm and in a similar manner, the firemen saw the new year in by responding to a false alarm caused by a defective sprinkler.

WHAT'S BURNING

From reports covering the United States and Canada, the estimated losses of fire during the week ending January 15, 1926, aggregated $9,959,400, as compared with $6,903450 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $10,000 loss and over, a sum equal to fifteen per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending January 9, follow in their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks, are based on estimates made at the time, which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

PAULDING, OHIO—High School Building partly destroyed.. 45
HUDSON, WISC.—Chapin Hall Hotel destroyed..... 95
BRACKENRIDGE, PA.—Property of Atlantic Bottle Company 95
SARATOGA SPRINGS, N. Y.—Garage of Saratoga Buick Co. destroyed 95
MARLBORO, MASS.—Business block owned by Michael Burke destroyed 220
ROXBORO, N. C.—Cotton Gin Mill destroyed, also property of Messrs. Watkins and Bullock, lumber merchants..... 63
YORK, PA.—Washington Inn destroyed..... 45
BASCOM, N. Y.—Barn and contents destroyed, Otto Buckle, owner 10
ERIE, PA.—Dwellings of S. Elliott destroyed..... 10
IDLEWILD, PA.—Hotel Idlewild..... 19
BUFFALO, N. Y.—Two-story business block owned by G. Locastro 10
LIVONIA, N. Y.—Residence and barn of F. Brown destroyed 14
OAK CLIFF, TEXAS.—Warehouse of Schoellkoph Company... 12
GADSDEN, ALA.—Factory building owned by Ray Handle.... 13
BOURBONNAIS, ILL.—Gymnasium Building of St. Viator College 95
EXCELSIOR SPRINGS, MO.—Garage of R. S. Saylor..... 20
CARBONDALE, PA.—Store, public garage and livery stable destroyed 195
TEXARKANA, TEXAS.—Southern Ice and Utility Company property 30
LOGAN, W. VA.—Leader Department Store..... 38
NEW COAL, WISC.—St. Stephens Catholic Church destroyed 72
DEGRAFF, OHIO—Ware house of Degraff Food Company destroyed 29
CARIBOU, ME.—Three-story business building..... 20
BALTIMORE, MD.—Applefeld block between Baltimore & Redwood Streets 140
NEW HAVEN, CONN.—Crown Street Annex of Adaskin Furniture Company 175
SOUTH ORANGE, N. J.—South wing of Columbia High School 245
WEST CHESTER, PA.—Main building and annex of P. E. Sharpless Dairy Products Company destroyed..... 195
CUMBERLAND, MD.—Merchants' Hotel of Rockwood..... 35
BINGHAMTON, N. Y.—Four story building owned by Pierson Brothers 45
RAEFORD, N. C.—Store property of Nesbitt & Howell, Raeford Hotel, also warehouse of H. A. Page..... 195
GREENVILLE, N. C.—Hotel and neighboring property..... 145
COLUMBIA, S. C.—St. John's Hotel destroyed..... 195
LA CROSSE, VA.—Warehouse of Southern Distributing Company and Southern Railway Company..... 45
LAWRENCE, MASS.—Warehouse of Pill Brothers and adjoining wooden warehouse destroyed..... 45
CHICAGO, ILL.—Three-story building occupied by C. W. Beggs & Company 70
SHIPPENSBURG, PA.—Education Hall destroyed..... 55
DELTA, PA.—Delta Hotel destroyed..... 45
DUKE CENTER, PA.—Free Methodist Church destroyed..... 30
BUFFALO, N. Y.—Harness shop of Joseph Schelman..... 10
HOLISDAYSBURG, PA.—Barn owned by Fred Snowberger destroyed 18
READING, PA.—Consumers Oil Burner Corporation..... 18
NORTH HORNELL, N. Y.—Ideal Bakery destroyed..... 11
BRADFORD, PA.—Property of Kendall Refining Company.... 12
ERIE, PA.—Residence of S. Elliott destroyed..... 10
UNION CITY, PA.—Riverside Laundry destroyed..... 14
NEW YORK, N. Y.—Henigs Livery Stable..... 45
BENTON, IND.—Store of Wm. Wysong and adjoining store property of John Gunderman..... 10
QUINCY, ILL.—Residence of L. P. Bonfoey, 1651 Main Street.. 20
BELLE UNION, IND.—Store and residence of John McAninch, also telephone exchange 10
GRAHN, KY.—Grahn Mercantile Store destroyed..... 95
REINBECK, IOWA—Farm residence of John Ramsey destroyed. 12
ST. PAUL, MINN.—Hamline Methodist Church, Capital and Asbury Avenues 55
BUTTE, MONT.—Store of Cartee Hardware Company..... 10
TRENTON, N. J.—Plant of Essex Rubber Company partly destroyed 35
LONG ISLAND CITY, N. Y.—Marble and Granite Plant of F. De Bellgrade, Inc., also coal pockets of Tisdab Lumber Co. 295
NORTH HORNELL, N. Y.—Ideal Bakery and home of Marino Dibennetto 11
THOMASVILLE, N. C.—Plant of Cunningham Brick Works... 45
TALOGA, OKLA.—Two buildings in business district..... 10
UNION CITY, PA.—Three business blocks destroyed..... 495

PHILADELPHIA, PA.—Buildings from 3917 to 3927 Lancaster Avenue 95
ROOSEVELT, S. D.—Two story brick building at Nassau Rd. and Wood Ave 35
GREEN BAY, WISC.—Methodist Church at Howe and Madison Streets destroyed 65
WELLSBURG, W. VA.—Three business buildings 145
ST. JOHNSBURY, VT.—St. Johnsbury Academy South Hall 95
LAKEWOOD, N. J.—Woodward Lodge owned by Samuel Shiner destroyed 55
WASHINGTON, IND.—Motion picture theatre and adjoining property 145
PARADISE, MD.—Dwelling of A. A. Davis destroyed 10
SYRACUSE, N. Y.—Washington Irving School at Madison Street destroyed 195
ATLANTA, GA.—Perfect Belt Manufacturing Company at Mitchel Street 10
EVANSVILLE, IND.—Evansville Auto Exchange Building 20
OSALOOSA, IOWA—Harness and shoe store of Chas. W. Ott 40
KINSTON, N. C.—Two story building of R. W. Fowler Company 11
CEDARHURST, OHIO.—Main building of Cedarhurst Country Club destroyed 70
WOBURN, MASS.—Property of F. S. Bartlett Company destroyed 10
MODESTO, CALIF.—Keyes warehouse of Grange Grain Company 20
CRESTON, IOWA—Home of F. E. Agnew destroyed 11
BROOKLYN, N. Y.—Property owned and occupied by Todd Shipyard Co. 10
JONESBORO, ARK.—Mercantile establishment of J. H. Taylor & Son at Monette destroyed 11
HOBOKEN, N. J.—Half block of buildings on Jefferson Street 95
WATERLOO, N. Y.—Waterloo Folding Box Company 45
EAST BOSTON, MASS.—Poolroom of Maverick House 18
BROOKLINE, MASS.—Home of A. H. Eichorn at 850 Newton Street 18
YOUNGSTOWN, OHIO—Brier Hill Motor Sales Company and plumbing establishment 85
CAIRO, ILL.—Portion of department store owned by George Crawford 15
OTTAWA, ONT.—Warehouse of Parson & Company 30
MAHANOY CITY, PA.—Unrivaled Hosiery Mill and Mahanoy City Paper Box factory destroyed 195
PHILADELPHIA, PA.—Garage at Bambrey Street near Tasker destroyed 35
SLATINGTON, PA.—Store of E. Williams 15
UNION CITY, PA.—Cooper House destroyed 75
ST. PETERSBURG, FLA.—Business section damaged 13
NEW ORLEANS, LA.—Cotton Pickery Plant of S. H. Kahn Company 10
HENDERSON, N. C.—Redrying Plant of J. F. Terry Tobacco Company 120
PHILADELPHIA, PA.—Storehouse of Lawrence McFadden Company 20
DANVILLE, PA.—Garage of Wm. McWilliams and twelve automobiles 30
TYRONE, PA.—Business property of A. Solomon, Chas. W. Getz, Getz & Dixon and Joseph Haag destroyed 45
RICHMOND, VA.—Plants of C. W. Antrim & Sons, and Gunn-Ellis Co. 95
RENFREW, ONT.—Victoria Hospital 30
QUEBEC, CANADA.—Chateau Frontenac Hotel 1,990
CLINTON, MASS.—Canon & McKnight business block 95
BRIDGEPORT, CONN.—Hawley Hardware Company, Main Street 45
NEW HAVEN, CONN.—F. W. Woolworth Store and Hubinger Building 95
NORTH AUGUSTA, GA.—Home of B. C. Wall, West & Arlington Heights Avenue, destroyed 11
ATLANTA, GA.—Garage and automobiles at Gannon Motor Company 10
PATERSON, N. J.—Brick building at 105-107 Paterson Street 30
BOURBONNAIS, ILL.—St. Viator's College 195
KITTANNING, PA.—Columbia Theatre owned by John Wick, Jr. 145
GLASGOW, KY.—Four business buildings 95
MARLBORO, MASS.—St. Jean Block at Lincoln and Broad Sts. 45

From reports covering the United States and Canada, the estimated losses of fire during the weeks ending January 22, 1926 aggregated $8,392,000, as compared with $6,250,250 for the corresponding week in 1925:

HUTTIG, ARK.—First Baptist Church destroyed 11
PINANATAN, B. C.—Residence of Peter Botta destroyed 10
TOPANGA CANYON, CALIF.—Thirteen beach cottages destroyed 13
BALTIMORE, MD.—Ilchester, Baltimore County Town Hall, and Clubroom destroyed 14
PHILLIPSBURG, N. J.—Display rooms and plumbing shop of H. Transue 10
OBERLIN, OHIO.—Johnson-Whitney block 45
YORK, PA.—Row of brick houses on Beaver Street 25
PETERSBURG, VA.—Bazar Stables owned by J. R. Jones 70
SHEBOYGAN, WISC.—Three-family residence of Arthur Gehrke, 611 S. 15th Street 12
LOS ANGELES, CALIF.—Ming-Krause Garage and Paint Shop owned by Morgan-Adams Company 10
DALLAS, S. D.—Four business buildings 20
FONDA, N. Y.—Business houses including theatre 45
GALT, ONT.—House and Garage of W. E. Walterson destroyed 10
WEIRTON LANDING, OHIO.—Barn and live stock of M. E. Wyckogg 13
CHAUMONT, N. Y.—General Store owned by L. B. Kickson destroyed 12
ROXBURY, PA.—Barn and contents, owner Charles Lawson 10
DANVERS, MASS.—Ye Olde Berry Tavern destroyed 58
HAMMONDSVILLE, OHIO.—Plant of Danado Fire Clay Company destroyed 45
NATURAL BRIDGE, N. Y.—Barn and live stock of Joseph Forbes 12
TAMPA, FLA.—Warehouse of Lee Terminal Company destroyed 95
BIGGSVILLE, ILL.—Three business establishments 45
MUNCIE, IND.—Apartment building, 101-116 South High Street 25
CRESTON, IOWA.—Home of F. E. Agnew destroyed 10
DIXON, KY.—Lynn Store, Elmer Clark Cafe destroyed; property of J. E. Jacobs 13
LEXINGTON, KY.—Berry Bedford Drug Store, 185 North Broadway 11
LAWRENCE, MASS.—Building at Essex and Amesbury Streets 25
DETROIT, MICH.—McNamara Varnish Works destroyed 13
WATERLOO, N. Y.—Seneca Falls Folding Box Company owned by L. S. Spear 15
LANCASTER, PA.—Lumber yard of H. E. Becker & Brother destroyed 20
RIDGWAY, PA.—Frame building occupied by Miles-Kane Grocery Co. 55
WEST HAVEN, CONN.—Orange Welding Company destroyed 20
SYRACUSE, N. Y.—Store occupied by Kier Brothers and adjoining propery 145
DETROIT, MICH.—Experimental Building at Ford Airport (Dearborn) 245
ROCKVILLE, CONN.—Property of Rockville-Willimantic Lighting Co. 30
GENEVA, N. Y.—Packard Printing Press Company of Border City 95
GREENFIELD, MASS.—Charles R. Field Manufacturing Company destroyed 20
BALTIMORE, MD.—Plant of American Skirt and Coat Company 95
MILWAUKEE, WISC.—Plant of Conway Company at 2019 St. Paul Avenue 95
BONNER SPRINGS, KANS.—Three business buildings 17
STEWARTSTOWN, N. H.—Stewartstown House and adjoining property 45
PAWLING, N. Y.—High School Building 70
SOUTH HILL, VA.—Three business establishments on Danville Street 50
LAKE CITY, S. C.—Warehouse of W. K. Graveley & Son, also Stuckley Liberty Stable 70
HAVANA, CUBA—Three business buildings in Moron 85
SPRINGFIELD, ILL.—Store of A. W. Wolfe Furniture Co. destroyed 10
LEOMINSTER, MASS.—One-story building at Mechanic and Fourth Sts. 12
NEWPORT, N. H.—Furniture store and warehouse of J. Q. Adams 30
OBERLIN, OHIO—Johnson Whitney business block 45
PHILADELPHIA, PA.—Property of S. Cohen & Sons, Second and Queen Sts. 10
RICHMOND, VA.—Hutzler Clothing Store 13
BRAZIL, IND.—Four-story factory building of American Vitrified Co. 345
WORCESTER, MASS.—Hamblin-Russell Wire Manufacturing Plant 20
GREENFIELD, MASS.—Plant of C. R. Field Manufacturing Co. 20
LAKEWOOD, N. J.—Silverman's Department Store 10
CENTRALIA, ILL.—Ice plant of Marion County Coal Co. 60
EAST BOSTON, MASS.—The Maverick House, owned by Moore & DePietro 20
PORTLAND, ME.—Office of Western Union Telegraph Co. 45
CISCO, UTAH—Building occupied by Cisco Mercantile Co. and owned by Pace Brothers 13
GALVESTON, TEX.—Mallory docks and adjoining piers, together with many bales of cotton and loaded freight cars. 240
ATLANTIC, MASS.—Atlantic Music hall 10
HOUSTON, TEX.—Four piers, 4,500 bales of cotton and four blocks of warehous facilities destroyed 490
DETROIT, MICH.—Fire at 2422-2428 Riopelle street, Eastern Market district 95
ST. LOUIS, MO.—Two-story building occupied by Burger Notion Co. 10
CANISTEO, N. Y.—Garage and service station owned by Salzman Garage 15
HORNELL, N. Y.—Bakery owner by Glen Mapes destroyed 10
GENEVA, N. Y.—Large barn owned by Walter Hopes 10
WARREN, PA.—Plant of Miles-Kane Co. destroyed 35
SHARON, PA.—Repair shop owned by Sharon Electric Repair Co. 10
LOS ANGELES, CALIF.—Southern California Novelty Furniture Manufacturing Co. 45
BICKNELL, IND.—Property of Bruceville Coal Mine, also Knox Consolidated Coal Co. 20
WINNIPEG, MAN.—Stobart building (business and apartment) 145
MATTAPAN, MASS.—Three-story building, 124 Lucerne street. 10
SANDSTONE, MINN.—Business district 45
NEBRASKA CITY, NEBR.—Mayer Hardware Co. and Pittstick Studio 33
TORONTO, ONT.—Four business establishments 15
VEREGIN, SASK.—Business district destroyed 45
EAST WALPOLE, MASS.—Warehouse of Bird & Son 20
TOLEDO, OHIO—Weber Clothing House destroyed 195
MANOWN, PA.—Business buildings owned by Andy Gondola and Tony Eanno 20
SPRINGFIELD, MASS.—Store of Lyman-Beers Co. 12
KEYES, CALIF.—Warehouse of Grange Co. 15
PHILADELPHIA, PA.—Wm. Ammonn Packing Co., 611 North 3rd street 10
JOHNSTOWN, PA.—Warehouse of I. D. Replogle Storage Co. 390
WINDSOR LOCKS, MASS.—Tobacco warehouse of L. J. Quagliorili 10
ODESSA, N. Y.—Three store buildings in business section 10
BERLIN, N. H.—Residence of A. Martin destroyed 10
WHEELING, W. VA.—Central Motors Corp. garage and 50 autos 150
GENEVA, N. Y.—Business buildings owned by T. H. Sweeley & Sons 10
ST. JOHNSBURY, VT.—Wood-working establishment of C. N. Lynch and grocery at Laferrier & Dutile streets 25
BRYAN, TEX.—Christian church and two adjoining residences 45
ST. LOUIS, MO.—Robbinson Garage and 150 automobiles 80
HAINES FALLS, N. Y.—Hallenbeck block, business property and residence of John Rusk destroyed 50
CHICAGO, ILL.—Warehouse at S. Clark and W. 16th streets destroyed 290
HARRISVILLE, W. VA.—Six stores and one dwelling in business district 95
HORNELL, N. Y.—Ideal Bakery owned by P. Werner 12
SCARBORO, GA.—House occupied by W. L. Rentz 10
NASHVILLE, TENN.—Shipbuilding plant of Victor Chemical Works 790

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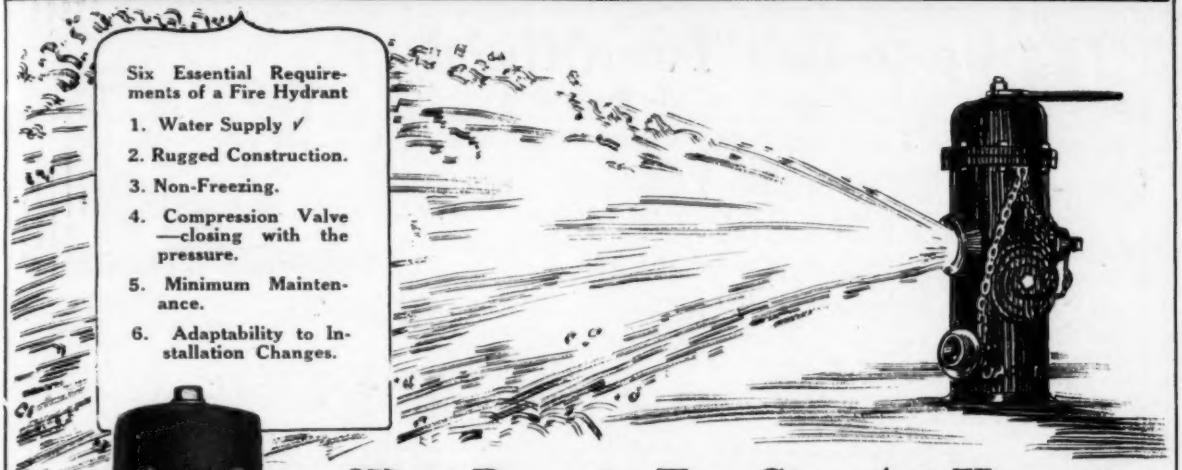

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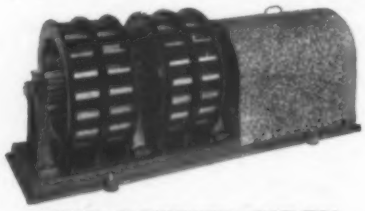

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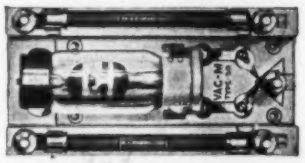

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FALSE ALARMS

THE AUTO FIRE ENGINE

JAMES W. FOLEY.

"Yes, things are changed, doggone the luck!"
Said the driver of Engine Three.
"For they're going to fires with an auto truck
And the horse he's a used-to-be,
It was sugar and oats and a shiny coat,
That was dappled and smooth and clean,
And now it's a lump in the driver's throat
And a tankful of gasoline.

"There was romance then in a driver's work
And something you loved right well,
It was a snap of a collar, a cry and jerk
And off in the streets pell-mell!
It was 'Steady, Charlie!' and 'Come on, Dick!'
It was sparks where the hoofs came down,
And many a time that they have turned the trick
Of saving a slice of town.

"There was something then in the stall back there
That was human—or purty near,
Big eyes and a shiny coat of hair,
And a beast that a man held dear
As a lifelong friend—but the auto truck
Is ousting them slick and clean
For oil and grease and a lot of muck
And a tankful of gasoline.

"And a driver, it used to be, could stand
And pet them and rub them down
And feed them sugar out of his hand,
Dapple and gray and brown,
But now it's a crank and a chug and wheeze
And a rattle and roar and grind,
With a smell of gas to make you sneeze
And a blue smoke out behind.

"The march of science along the track
I guess you might call it so;
But give me them old fire-horses back
And let me hitch up and go!
For a horse was a human sort of thing
When he ran with that old machine;
But an auto truck for a fire, by jing!
And a tankful of gasoline."

Then he rubbed down its nickled and varnished coat
And he shined up its great glass eye;
He polished the brass with a lump in his throat
And a sorrowful, long-drawn sigh,
He lifted the hood where its metal soul
Lay hidden and all unseen,
Then unscrewed a cap from a yawning hole
And fed it some gasoline.

—*Popular Mechanics.*

Away down south a negro member of a village volunteer brigade located in the back woods drove into the county seat and at the court house inquired for a marriage license.

Clerk: "All right Sam, give me your full name and age."

Sam: "Sam Washington Jones—35 years old."

Clerk: "Ever been married before?"

Sam: "No sir."

Clerk: "Has your intended wife ever been married before?"

Sam: "No sir."

Clerk: "Where is the woman you want to marry?"

Sam: "In the car out there in the street."

The clerk looks out of window and sees "lizzie" with woman and three small children and asks Sam—

"Whose children are those with the woman?"

"Them is our children."

Clerk: "You have all those children by that woman? Why didn't you come in years before and get a license and become legally married?"

Sam: "Well sir, boss, you all knows that I belongs to the fire department and I'se running to fires so much all time that I never can get away to come down here."

TWO WAYS OF SAYING IT

(Submitted by our good friend, Chief H. J. Callahan of Fort Dodge, Ia.)

An elderly Presbyterian minister, who had retired, was living in a small town in the South. He had a grown son who conducted a small store there.

One day the son's place of business got on fire and the small volunteer department, without equipment other than buckets, responded to the alarm. The old minister, like almost everyone else in the little community, went to the scene of the blaze.

After watching the efforts of the firemen, who were using their equipment (buckets) with more or less effect, principally the latter, the old preacher remarked to a gentleman standing beside him, "It occurs to me that the facilities for combating a conflagration in this town are, to say the least, woefully inadequate."

Just then the son came up and he gave vent to the same thought, but in a little different words, he said, "That's a hell of a fire department."

Wilbur Smith was a newcomer in the fire department. He was built in proportions like a clothes pin, possessing a very effeminate aspect. But there wasn't a trace of cowardice in him. He possessed, on the other hand, an exceptionally keen mind and a wit which was hard to match.

He had been assigned to theatre detail. One night at the theatre some scenery took fire, and a very perceptible odor of burning materials alarmed the spectators. A panic seemed to be imminent, when he stepped upon the stage.

"Ladies and gentlemen," he said, "compose yourselves, there is no danger."

The audience did not seem reassured.

"Ladies and gentlemen," continued the fireman, rising to the necessity of the occasion, "confound it all—do you think if there was any danger I'd be here?"

The panic collapsed.

HE SLEPT ON HIS BACK

It was in the dormitory of a downtown engine house that a new man was spending his first night and, contrary to the custom of new men he seemed to be enjoying his nocturnal dreams to such an extent that he annoyed his fellow sleepers.

One of them finally slipped out of his bed and went over to the other's bed. Presently he was back in his own. Getting himself "fixed" he raised his arm and something went sailing through the air. It landed fully on the sleeper's face.

He awoke with a start. Realizing that something had hit him and knowing that he was a noisy sleeper, he looked about his bed.

He found the object and without saying a word he threw it out the window upon the street below. Then he lay back down after changing his position to a more safer one and went back to sleep.

Next morning he had to "peg leg" down the stairs and into the street where he had thrown his OWN shoe.

SHIFTING THE UNIFORM

A few years ago two brothers—twins—were on the Glasgow, Scotland, fire force. One worked on the day platoon and the other on the night. By this arrangement one uniform and one civilian suit lasted them for 16 years, for as one brother shucked an outfit the other slipped into it.

RIVAL PROPRIETORS

[London, Mail.]

Owner of Burning House (whose advice has been refused): "Well, it's my house!"

The Village Captain: "Well it's my fire!"

CONVENTION DATES

May 10-13—NATIONAL FIRE PROTECTION ASSOCIATION (International). 30th Annual Meeting, Atlantic City, N. J. Secretary, Franklin H. Wentworth, 40 Central St., Boston, Mass.

April 1—INDIANA FIREMEN'S ASSOCIATION. Annual Convention, (tentative date, week of April 1). Marion, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

June 8-10—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 37th Annual Convention, Port Jervis, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie, N. Y.

June 9-11—MARYLAND STATE FIREMEN'S ASSOCIATION. 34th Annual Convention, Westminster, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 22-24, 1926—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS—Fourth Annual Convention, Hotel Carpenter, Corner Merrimack and Franklin Sts., Manchester, N. H. Exhibit Hall, New Hampshire State Armory. Secretary, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Com., Chief Henry H. Heitman, Waterbury, Conn.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

Aug. 17-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 55th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Sept.—KANSAS FIRE CHIEFS AND FIREMEN'S ASSOCIATION. Tentative Month of Annual Conventions, at Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Sept. 14-15—IOWA STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 27-29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. 54th Annual Convention, Hotel Roosevelt, New Orleans, La. Secretary, Chief James J. Mulcahey, Yonkers, N. Y.

Illinois Firemen Meet in Kewanee

The thirty-eighth annual convention of the Illinois Firemen's Association met at the Armory, Kewanee, Ill., on January 12 to 14, the convention being opened by the president, Pearl Smith, of Madison, at 10:30 a. m. on Tuesday, January 12. Following the invocation by Rev. C. F. Fisher, pastor of the first Congregational Church, Mayor James H. Andrews, of Kewanee, welcomed the delegates. The response was delivered by President Smith, and was seconded by Past President A. W. Thode, of Galena; Past President M. J. Myers, Mt. Pulaski, and Past President E. W. Barkman, Decatur, in short addresses.

At the Tuesday afternoon session papers were read and discussed, the subjects and authors being: "Dry Cleaning Plant Hazards," by Charles J. Mattson, deputy state fire marshal of Illinois; "Greater Efficiency for Your Present Fire Apparatus," by Charles W. Parsons, Engineer, Illinois Inspection Bureau, and "The 4-11 of Fire Prevention," by Harry K. Rogers, Engineer, Western Actuarial Bureau, Chicago.

The papers were followed by the memorial service.

The address of the morning session on January 13 was by John G. Gamber, state fire marshal of Illinois, on "Sincerity and fire Prevention."

After the reception of and action on several committee reports, the convention listened to an address on "The Two Per Cent Foreign Insurance Tax Law," by Percy Fullmer, public accountant, Aurora, Ill. In referring to state legislation proposed on this subject.

Mr. Gamber spoke on the subject of the "Short Course on Fire Prevention" held at the University of Illinois last June, (now being reprinted in FIRE ENGINEERING), and gave a synopsis of what would take place at the course for this year.

The final session of the convention was held on Thursday morning at 10 o'clock. The officers elected for the ensuing year were as follows: Pearl Smith, President, Madison; Thomas J. Ruddy, First Vice President, Joliet; Roy W. Alsip, Secretary, Champaign; Fred E. Danner, Treasurer, Mt. Pulaski, and Elmer W. Weidler, Historian, Mt. Olive.

The next convention city, as chosen by the delegates, for the 1927 annual gathering, was Quincy, Ill.

One paper was listened to on the subject of "Ventilation," by Chief Dan Shire, fire department, Rock Island, Ill., Arsenal.

The convention then adjourned.

Chicago Upholds Theatre Rulings—Fire Commissioner Connery of Chicago, Ill., was told by Mayor Dever that all theatres that violated the laws in reference to over crowding, inflammable drapes, rubbish filled basements and similar fire prevention laws would have their licenses revoked. A meeting has been called to consider the pleas of the theatre-owners that the code be modernized.

PROPOSED IMPROVEMENTS

Guide Rock, Webster Co. Nebr.—Purchase of Chemical car contemplated.

Beemer, Cuming Co. Nebr.—Volunteer firemen have raised $1,000 towards purchase of chemical car.

Nebraska City, Otoe Co. Nebr.—Agitation going on for purchase of fire apparatus. Recuently city suffered bad fire.

Ocean Grove, Monmouth Co. N. J.—City voted $12,000 for purchase of fire apparatus. Bids for 1,000-gal. pumper to be opened. February 11.

Orange, Essex Co. N. J.—Chief McMillan recommends purchase of aerial ladder truck with pneumatic hoist.

Genesco, Livingston Co. N. Y.—Plans being made for purchase of apparatus for rural protection.

S. New Berlin, Chanango Co. N. Y.—Steps taken to provide village with fire protection.

Churchville, Monroe Co. N. Y.—Funds being raised for purchase of fire apparatus; $3,500 at present collected.

Wilson, Wilson Co. N. C.—Board of aldermen recommended construction of central fire station with modern equipment to cost $50,000 and the installation of a fire alarm system to cost $10,000.

Hamilton, Butler Co. Ohio—City officials planning for construction of new fire station.

Marshfield, Coos Co. Ore.—Agitation going on for purchase of fire apparatus for which bonds were voted some time but council did not take action in matter.

Medford, Jackson Co. Ore.—Chief Elliott recommends purchase of city service truck and another brass sliding pole.

Hershey, Dauphin Co., Pa.—Fire company soliciting funds for purchase of chemical car.

Souderton, Montgomery Co., Pa.—New fire station now under construction.

Waynesboro, Franklin Co., Pa.—Suggestion made by Chamber of Commerce that county purchase fire apparatus.

Harmanville, Allegheny Co., Pa.—City desires construction of new fire station.

Marshfield, Coos Co., Ore.—Purchase of fire apparatus recommended by Chief Kruger.

Chester, Delaware Co., Pa.—May form new fire company in eleventh ward.

Memphis, Shelby Co., Tenn.—Installation of fire alarm system in schools, urged.

Ogden, Weber Co., Utah.—County commissioners appropriated $4,000 for purchase of apparatus for rural protection.

Vinton, Roanoke Co., Va.—Volunteer fire department to be formed.

Everett, Snohomish Co., Wash.—City clerk instructed to invite bids for supplying fire hose. Present fire alarm system is very old and imperfect.

San Diego, Cal.—Purchase of new aerial ladder truck authorized.

Burlingame, San Mateo Co., Cal.—Matter of bond issue for purchase of fire apparatus will be placed on ballot at next election.

Tracy, San Joaquin Co., Cal.—City inadequately equipped with fire-fighting apparatus. May place matter before voters at next election.

Birmingham, Jefferson Co., Ala.—Survey made for erection of new fire station to offset higher insurance rates.

Decatur, Macon Co., Ill.—May construct bungalow type fire station in park.

Paducah, McCracken Co., Ky.—Chief Slaughter recommends purchase of triple combination car, 1,000 ft. of fire hose, installation of six new fire alarm boxes and a punch register.

Rockford, Winnebago Co., Ill.—Appropriation to be made for construction of new fire station.

Onslow, Jones Co., Ia.—Funds being raised for purchase of fire apparatus.

San Francisco, Cal.—Recommendations made to county grand jury that three new fire companies be instituted.

Elkhart, Elkhart Co., Ind.—To relocate fire company.

Fort Madison, Lee Co., Iowa.—Propose to purchase two additional pieces of fire apparatus, pumper and chemical car.

Patchogue, L. I., N. Y.—Chamber of Commerce in favor of purchasing pumper of 1,000-gallon capacity.

Martins Ferry, Belmont Co., Ohio—Survey of department revealed shortage of fire hose.

Hershey, Dauphin Co., Pa.—Soliciting funds for purchase of chemical car.

Dunmore, Lackawanna Co., Pa.—Chief Murphy asked for installation of more fire alarm boxes throughout city.

Darlington, Beaver Co., Pa.—Recent fire losses brought needs of fire department; to organize motorized fire department.

Waynesburg, Greene Co., Pa.—The Chamber of Commerce recommended adequate fire protection. Survey being made to see how nearby towns have solved problem.

Norristown, Montgomery Co., Pa.—Plans made for erection of new fire station in spring.

Chester, Delaware Co., Pa.—Marcus Hook Company to enlarge fire station.

Greenville, Greenville Co., S. Car.—Chief Donald in annual report recommended purchase of aerial ladder truck.

Woodstock, Vt.—C. F. Bennett, Woodstock Fire Dept., wants literature on Fire Drills and Organization; also Fire Engine Tests and Fire Stream Tables.

Proposals For Fire Apparatus

FALL CREEK, WIS.

Bids open Feb. 16, 1926

Notice is hereby given that sealed bids will be received by the clerk of the Village of Fall Creek, at Fall Creek, Wisconsin, until seven (7) o'clock p. m., Tuesday, February 16, 1926, for a Chemical Equipped Fire Truck.

For further information see or write Village Clerk of the Village of Fall Creek.

The Village Board reserves the right to reject any or all Bids.

Signed George H. Zetzman, Village Clerk.

1-25-26, 2-10-26.

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Old and well established Chicago manufacturer has position open for man experienced in selling fire apparatus or similar equipment to cities and municipalities. Must be capable of qualifying as departmental sales manager.

In your reply give address, age, with whom now and previously employed, exact description of former duties, salary earned, etc. All replies strictly confidential. Address: Box 114 % FIRE & WATER ENGINEERING, 225 W. 34th St., N. Y. C. 12-23TF

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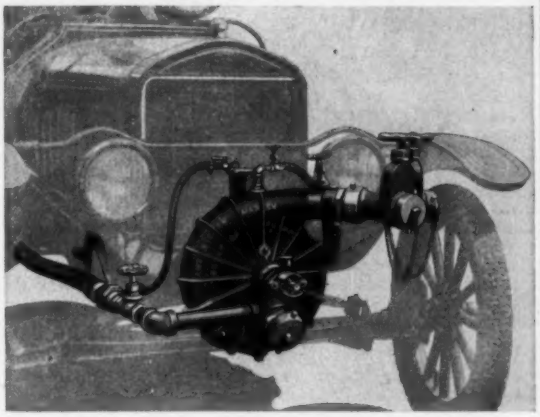

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BADGES

Ask For Catalog

Human Spark Plugs

Spark plugs are familiar objects in these days. Every schoolboy knows that the "gas" in an automobile engine is fired by an electric spark, yet few people realize that gasoline vapors in factories are sometimes fired by sparks from human beings. If when combing your hair on a dry winter day you hear the snapping of the static electricity, or when groping in the dark you see a spark jump from your finger tip, you are a human spark plug. Two people have started fires in this manner as described in the following paragraphs.

At the Endicott-Johnson Shoe Company, Johnson City, N. Y., one of the women employees seemed to be especially liable to accumulate a charge of static electricity, possibly because of a dry skin. Her work was to pass leather soles between two slightly separated steel rollers, the lower one dipping into a receptacle of rubber cement which was thus spread on one side of the sole.

On five different occasions last winter a spark from her fingers ignited the gasoline vapors from the cement. The fires in the container were easily extinguished, but unfortunately the operator, whose hands and arms were covered with the rubber cement, was severely burned on several different occasions. Following one fire she was under medical care for three weeks, and during her absence another girl operated the same machine without causing a single fire. When the regular operator returned, she had been at work but fifteen minutes when the cement ignited. She has been assigned to other work and the fires on the machine have ceased.

A similar accident happened in an automobile tire factory in Canada. One of the workmen becomes charged with static electricity so easily that he has been in the habit of teasing his fellow workers by touching their ears and producing a spark. This man was pushing along a truck of tire fabric near a tank containing about twenty gallons of rubber cement when a spark jumped from him to the tank, setting fire to the gasoline fumes. Employees with chemical extinguishers and tarpaulins had nearly extinguished the fire when the tank in some manner was overturned. The cement overspread the floor, extending the area of the fire so that one hundred and sixty-eight sprinklers opened.

The large volume of water discharged by the sprinklers leaked through the floor, and caused about $50,000 damage to machinery and stock in the stories below. The fire loss would not have been large if the tank had been securely supported and provided with an overflow pipe to prevent the water used on the fire from floating burning cement over the sides of the tank, or if automatic foam extinguishers had been used, which would have put out the fire promptly at the start.

Chicago Firemen Seek Increase

A recommendation was made by Fire Commissioner Connery before the finance committee of the Chicago, Ill., city council, that increases in salaries in the fire department totalling $400,000 annually be granted. This action followed a notice served by the Commissioner on all ranks in the fire department that independent campaigns for improvement of working conditions and wages in the fire department would no longer be permitted.

He said the practices would bring about "a house divided against itself" and that hereafter all complaints and suggestions must be brought to him instead of to the city council.

He urged the aldermen to grant the additional sums on the ground that although New York has less territory than Chicago, its department is much larger, its men are paid much more, and the local department has kept losses down to one-half of New York's.

The present pay of the various ranks and the amount of increase recommended for each by him follows:

Group—	Salary.	Inc.
Firemen, first class	$2,200	$200
Firemen, second class	2,140	160
Firemen, third class	2,040	60
Pump operators	2,200	300
Engineers	2,580	None.
Lieutenants	2,600	200
Captains	2,900	100
Battalion chiefs	3,700	200
Assistant marshals	4,200	300

The committee deferred action, turning its efforts instead to cutting $1,600,000 out of the proposed 1926 budget.

Adrian, Mich., Buys New Truck—A new rural fire truck has been ordered by the city of Adrian, Mich., to take the place of the one recently demolished by colliding with a New York Central train. It will be of the Obenchain-Boyer make, and is to cost about $9,000, which was the price of the ill-fated apparatus.

Another Steam Pipe Fire

It has long been a well recognized fact that low pressure steam pipes are the cause of a large number of fires, but specific, well substantiated instances of such fires are not so numerous. A fire in the Wesley Block, Columbus, Ohio, on November 15, 1920, furnished an excellent illustration of the way such fires may occur. The building was a large brick structure of old style ordinary construction, occupied for mercantile and office purposes, including light shop craft work.

The fire was discovered under the second floor, and smoke was coming out from under the floor above, having traveled up the inside of partitions. Both floors were of matched tongue and grooved dimension lumber, and were covered with linoleum, which fact would eliminate the "dust and sweepings" theory as a possible explanation of the cause of the fire. Upon tearing up the floor it was discovered that woodwork around a steam pipe leading to an ordinary office radiator was on fire. Because of quick discovery and prompt action the fire was extinguished by the use of a 2½ gallon chemical extinguisher.

An examination showed that no attempt had been made to insulate or protect the woodwork from the steam pipe. There were very evident signs of smouldering and charring on the under side of the floor, and on the floor joists for several feet around the steam pipe. This had apparently been going on for some time. The heating system is low pressure steam, installed about 25 years ago. If further evidence were needed to definitely prove that the low pressure steam pipe was responsible for this fire, it would be furnished by the fact that a similar fire occurred in the same building about 10 years ago.

Clearance and air circulation should be allowed between all steam pipes and woodwork.

H. E. DRUGAN.

Special Winter Fire Hazards

The greater part of the fire loss in winter is due to poor chimneys, dangerous installation of heating devices, smoke pipes, hot-air pipes and registers, and to roof fires, the last causing a majority of the fire alarms.

A few fires each winter are reported as caused by efforts to thaw out frozen water pipes by the use of flame, live coals or torches. Wrapping frozen pipes heavily with cloths, then pouring boiling water on this cloth packing will thaw out the pipes without any danger of setting the building on fire.

Care must be exercised in storing soft coal. The bin should be of incombustible material and have a safe clearance to boilers, furnaces, smoke and hot-air pipes. Coal should not be piled up to the ceiling. The higher the pile the greater the liability of spontaneous combustion in soft coal. In case of fire in a soft-coal bin, the only safe way is to remove the coal to the outside. Coal in the bin should never be wetted down. Such coal as is immediately used may be wetted down. Mixing ashes, oily waste and rags, paper or wood with coal is dangerous. Storage of ashes in wooden receptacles causes many fires.

Sometimes the gases arising from burning coal piles are sufficient to snuff out human life. *Safety First,—Industrial Commission of Wisconsin.*

Boys Start Fire to "Scare Ghosts"

Two boys under nineteen years of age are held for the grand jury in New Rochelle, N. Y., on the charge of arson. According to their confession they had set fire to what is known in that city as the Wright mansion, one of the oldest landmarks in that section, to protect them from ghosts which had disturbed them while they were trying to sleep in the unoccupied dwelling.

The house was filled with valable antiques, collected by the owner, Charles B. Lane. While carrying a mattress upstairs one of the boys said he "heard an unearthly noise." Having heard that ghosts were afraid of fire, he dropped the mattress, and the two lit matches and set it on fire. The boys also confessed to having set fire to a garage in another part of the city recently.

Fire Department Organized at Circle, Mont.—A volunteer fire department is being organized in Circle, Mont.

Huntington, W. Va., to Have New Fire House—Huntington, W. Va., is soon to award contracts for the construction of a fire house to cost $40,000 including grounds.

Gas Masks for Firemen—E. S. Steidele, professor of mining at Carnegie Institute of Technology, Pittsburgh, Pa., urges the extended use of gas masks by municipal fire departments, not only as a preventative of death, but as an economic means of saving property.

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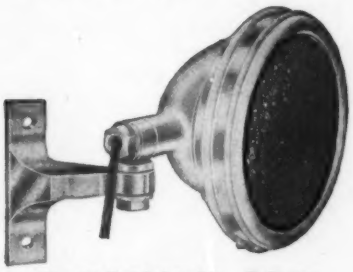

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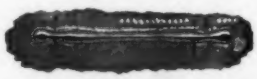

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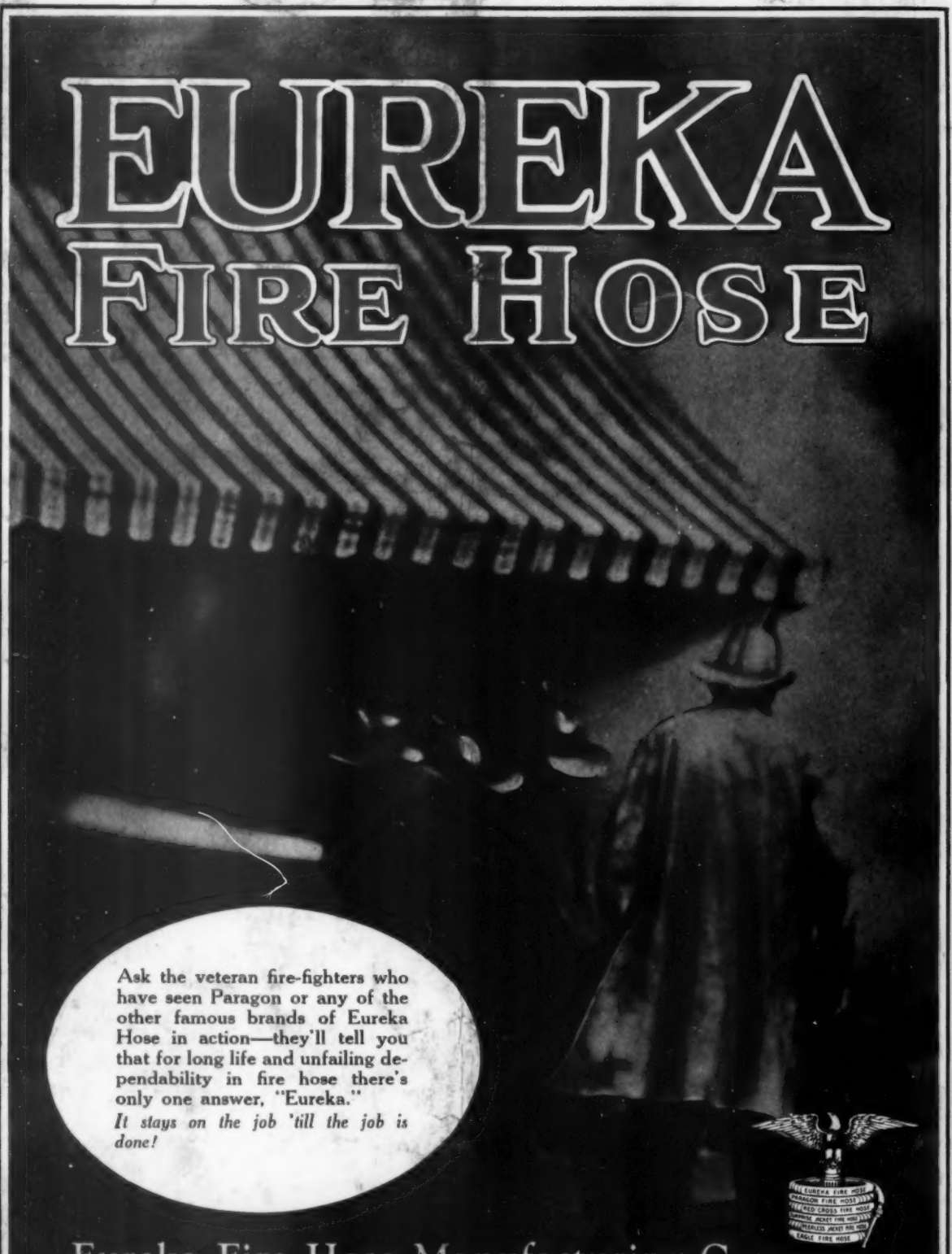
New York

EUREKA FIRE HOSE



Ask the veteran fire-fighters who have seen Paragon or any of the other famous brands of Eureka Hose in action—they'll tell you that for long life and unfailing dependability in fire hose there's only one answer, "Eureka."

It stays on the job 'till the job is done!

Eureka Fire Hose Manufacturing Company

50 Church Street, New York City

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